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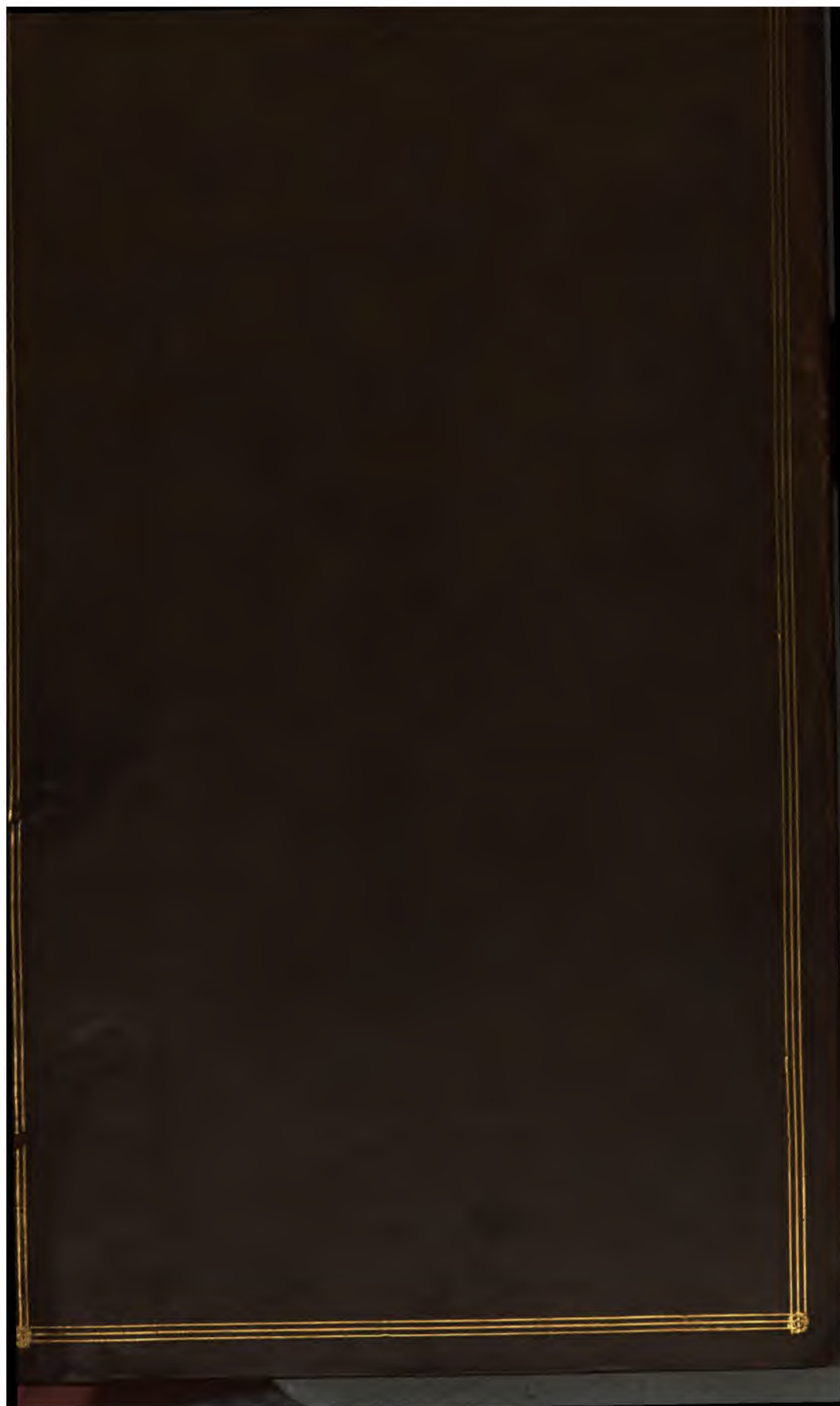
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THE
ZOOLOGICAL MISCELLANY;

BEING
DESCRIPTIONS OF NEW, OR INTERESTING.
ANIMALS,

BY
WILLIAM ELFORD LEACH, M.D. F.L.S & W.S.
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, AND OF THE
ROYAL COLLEGE OF SURGEONS, AND MEDICO-CHIRURGICAL SOCIETY
OF LONDON, &c.

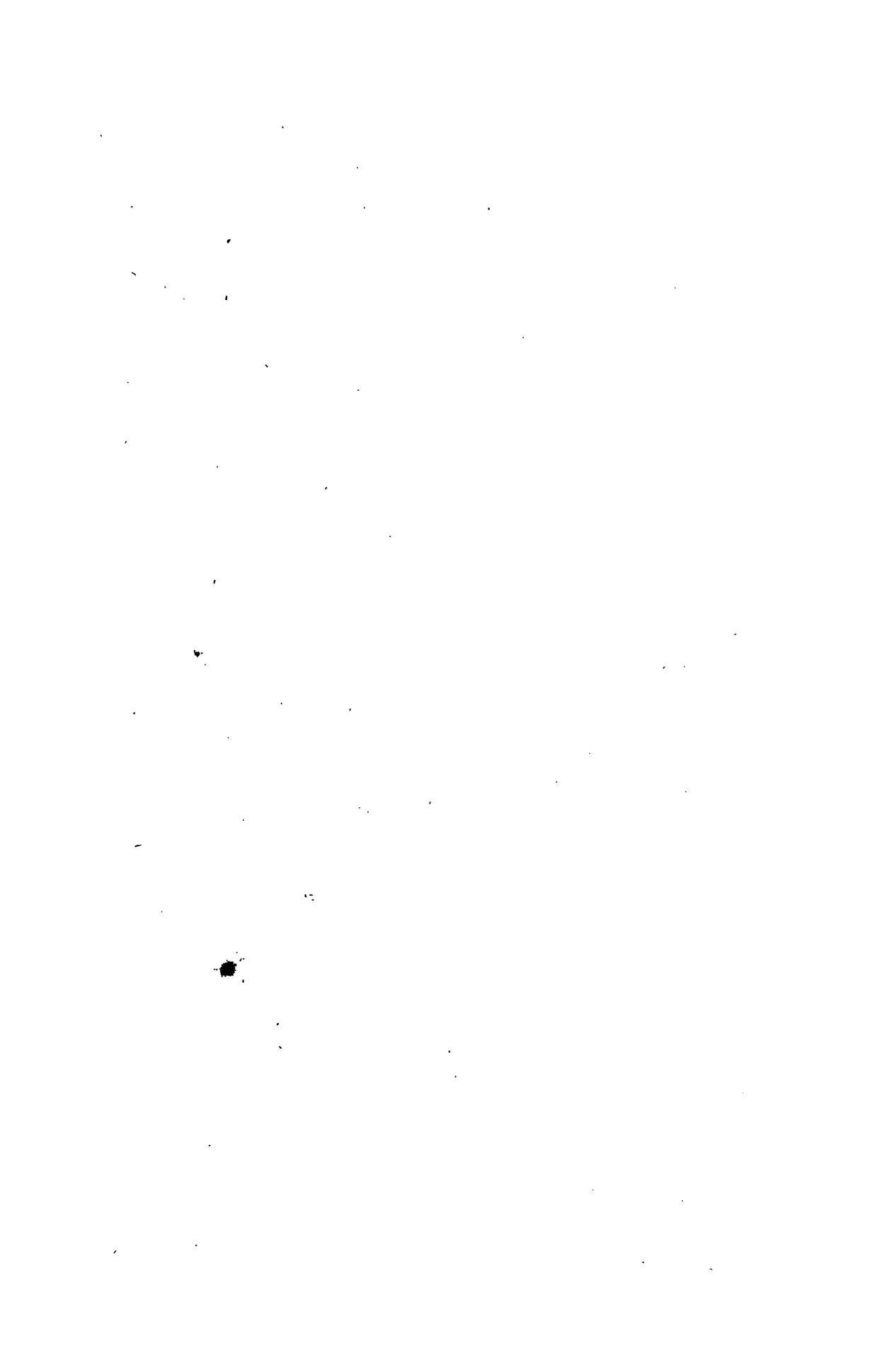
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COLOURED FIGURES, DRAWN FROM NATURE,

BY R. P. NODDER,
ANIMAL PAINTER, AND DRAFTSMAN IN NATURAL HISTORY.

VOL. II.

LONDON:
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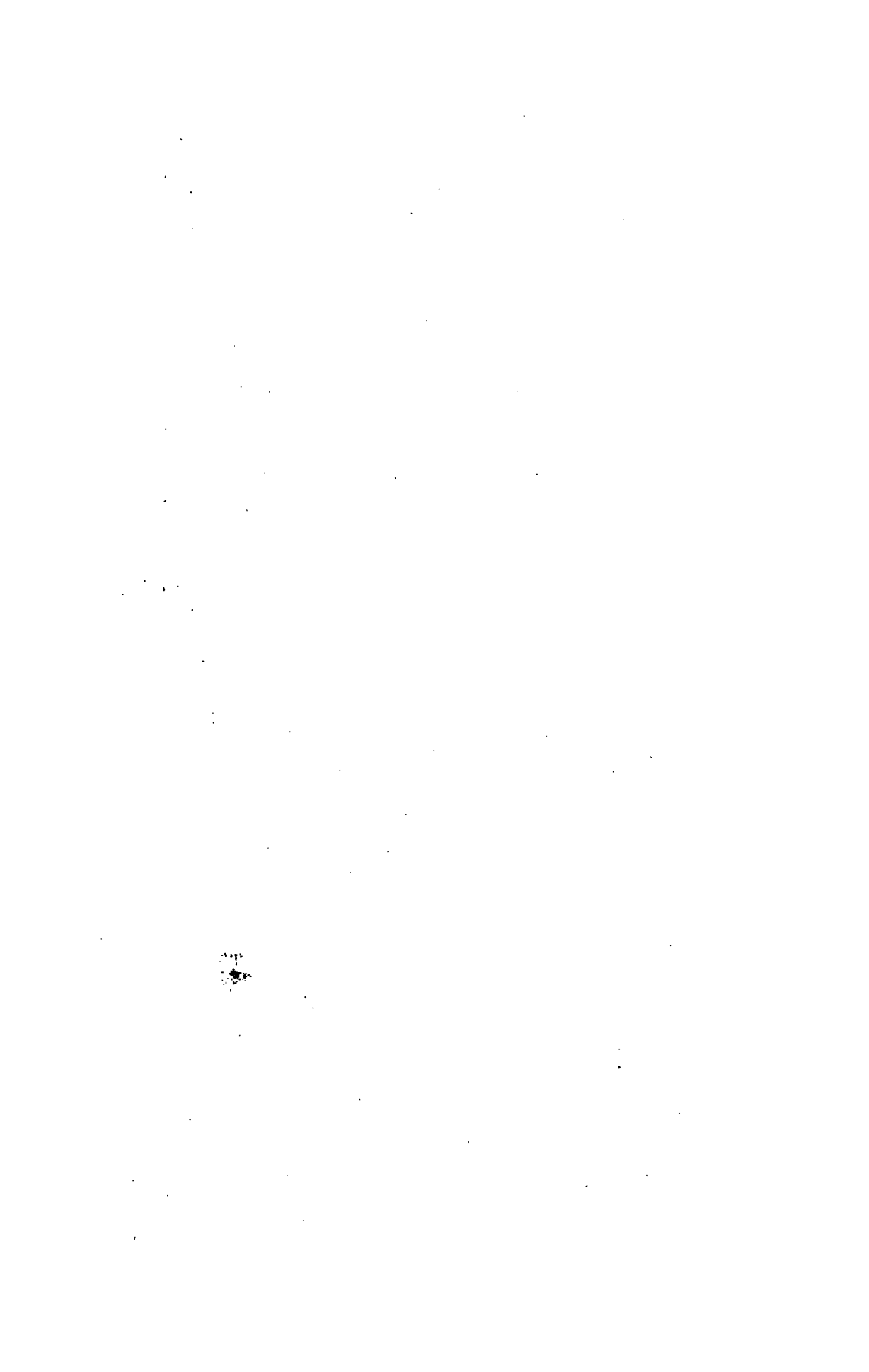
1815.



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THE termination of the First Volume of the *Zoological Miscellany*, will enable our Readers fully to understand the plan of the Work, the object of which is, to describe and to figure new or interesting species, especially such as require elucidation.

Some of our Readers have observed, that the quantity of letter-press is too little. To obviate this cause of complaint, a smaller type will in future be used, and comparative characters of kindred genera, (not requiring elucidation by Plates), will be occasionally introduced, printed on separate leaves of paper, so as to allow of systematic arrangement.



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The Third Volume of the Zoological Miscellany will be published on the 1st of January, 1817; the Author having determined to alter the plan, for the purpose of introducing on the more neglected parts of Zoology, a series of Monographs, which will not only render the Work beneficial to Science, but will make it more interesting to the general Reader.

On the 1st of January, 1816, was published,

No. VII. of Malacostraca Podophthalma Britanniae.

This Work, which is intended to comprehend Descriptions and Figures of all the British Crabs, Lobsters, and other Crustacea with pedunculated eyes, will be completed in Fourteen Numbers, price 7s. 6d. each; on superfine paper 10s. 6d.; and plain 6s. The Work will form one moderately thick Quarto Volume.

ERRATA.

- Page 26, lin. 1, pro "ASTIAS" lege ACTIAS.
 15, — 9, pro "caulé" lege caule.
 16, — pro "DARK" lege DART.
 25, — 15, dele "of the male."
 30, — 12, pro "tops" lege tips.
 50, ult. pro "podophthalmata" lege podophthalma.
 53, }
 54, }
 55, } ubique pro "radius" lege radios.
 et
 56, }
 { pro "RUTELA" lege ANOPLONGNATHUS.
 dele lineas 2 et 3.
 43, { lin. 4, dele "*Fabr., Oliv.*"
 — 7, pro "tridenticulata" lege inermes.
 — 19, pro "three little" lege no.
 lin. penult, dele "South America and."
 { pro "RUTELA VIRIDI-ÆNEA" lege ANOPLONGNATHUS VIRIDI-ÆNEUS.
 lin. 3, pro "ænea punctulata" lege æneus punctulatus.
 — 8, pro "RUTELA" lege ANOPLONGNATHUS.
 44, { — 14, pro "RUTELA" lege ANOPLONGNATHUS.
 — 15, pro "subcastanea" lege subcastanens.
 — 19, pro "RUTELA" lege ANOPLONGNATHUS.
 lin. ult. pro "R. viridi-ænea" lege A. viridi-æneus.
 82, lin. 5, pro "tibia" lege tarsus.
 98, pro "XCV." lege XCIV.
 45, }
 46, }
 17, } ubique pro "pogonia" et "pogonias" lege pagonius.
 104, }
 78, line 1, pro "STREPERA" lege STREPERUS.
 136, — 18, pro "rufus" lege fuscus.
 117, — 1, pro "CUVIERI" lege LUCIUS.
 118, adde,—Since the above description was published, I have seen the original specimen of Cuvier's *Crocodylus lucius*, which agrees with that in the British Museum in every point. I was therefore misled by the figure and description of M. G. Cuvier.

PHASIANUS.

PHASIANUS, *Linn., Lath., Cuv., Gmel.*

CHARACTER GENERICUS.

Rostrum breve, robustum, subincurvum.

Pedes ambulatorii, digitis 3 anticis, 1 postico: *tarsi* calcarati; *ungues* mediocres, curvati, infra excavati.

GENERIS DIVISIONES.

Divisio * *GALLI*, *Brisson*, *Raii*.

Cauda ascendens.

Aures nudæ.

MARIS caput carunculatum, caruncula compressa, sæpius dentata.

PHEASANT.

GENERIC CHARACTER.

Beak short, stout, slightly incurved.—*Legs* formed for walking, with three toes before, and one behind; *feet* armed with spurs; *claws* moderately long, curved, excavated beneath.—Division * *Cocks*.—*Tail* ascending.—*Ears* naked.

The males of this division generally have their head ornamented with a compressed combe, which is generally dentated.

TAB. LXI. PHASIANUS (*) INDICUS.

P. pennis colli linearibus, elongatis, albo, atro fulvoque maculatis, apice membranaceis; gula, jugulo, pectore, abdomine, dorso tectricibusque alarum griseis albo-lineatis; remigibus rectricibusque atro-nigris.

Phasianus Gallus. Gmelin. 737.

Phasianus Gallus var. a. Lath. Ind. Orn. 625. 1.

INDIAN (*) PHEASANT.

Feathers of the neck linear, elongate, spotted with white, black and fulvous, tips membranaceous; throat, breast, belly, back, and wing-coverts griseous, lineated with white; quills of tail and wings black.

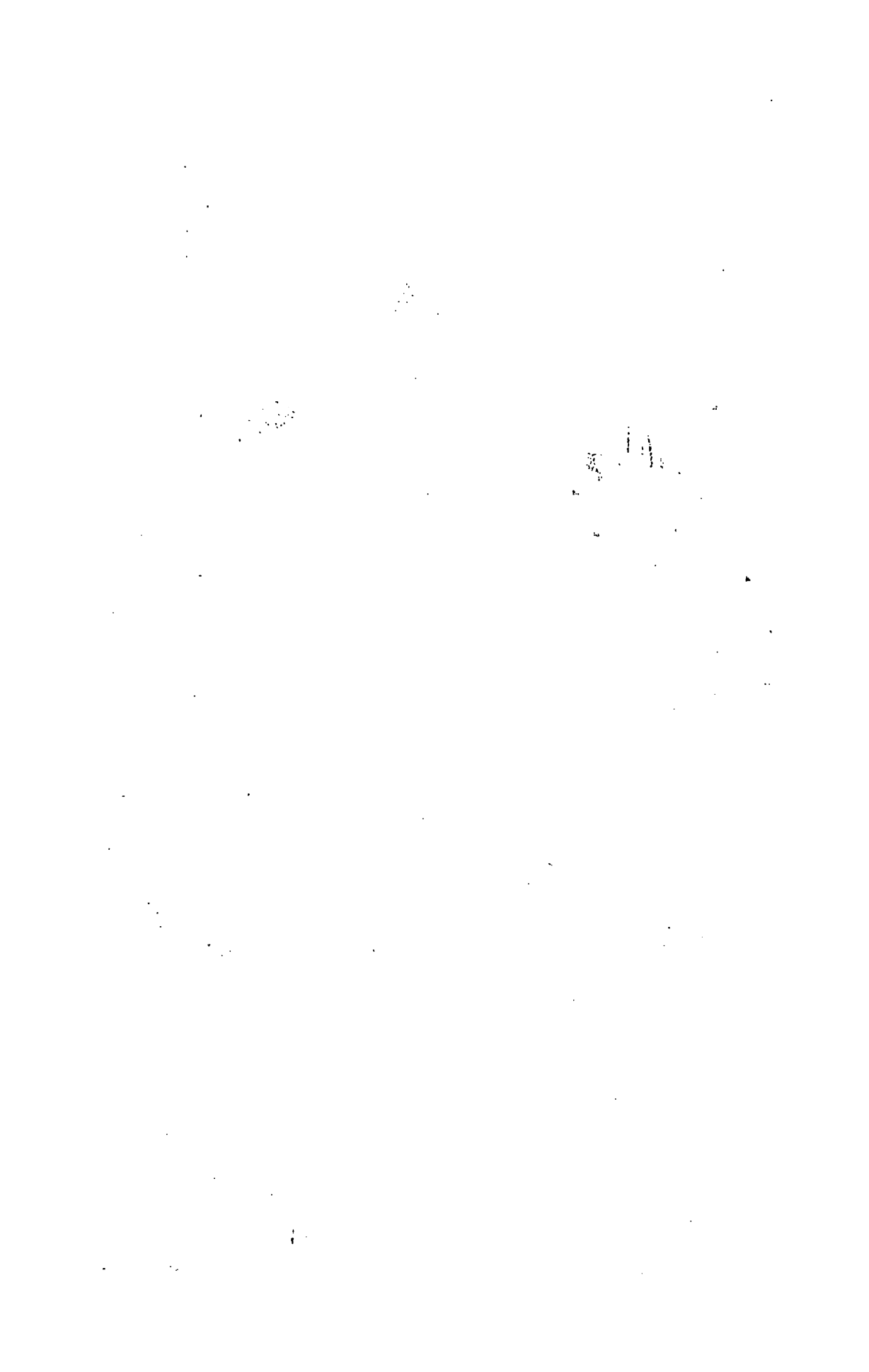
Wild Cock. *Lath. Gen. Syn. 2, 2, 625, 1.*

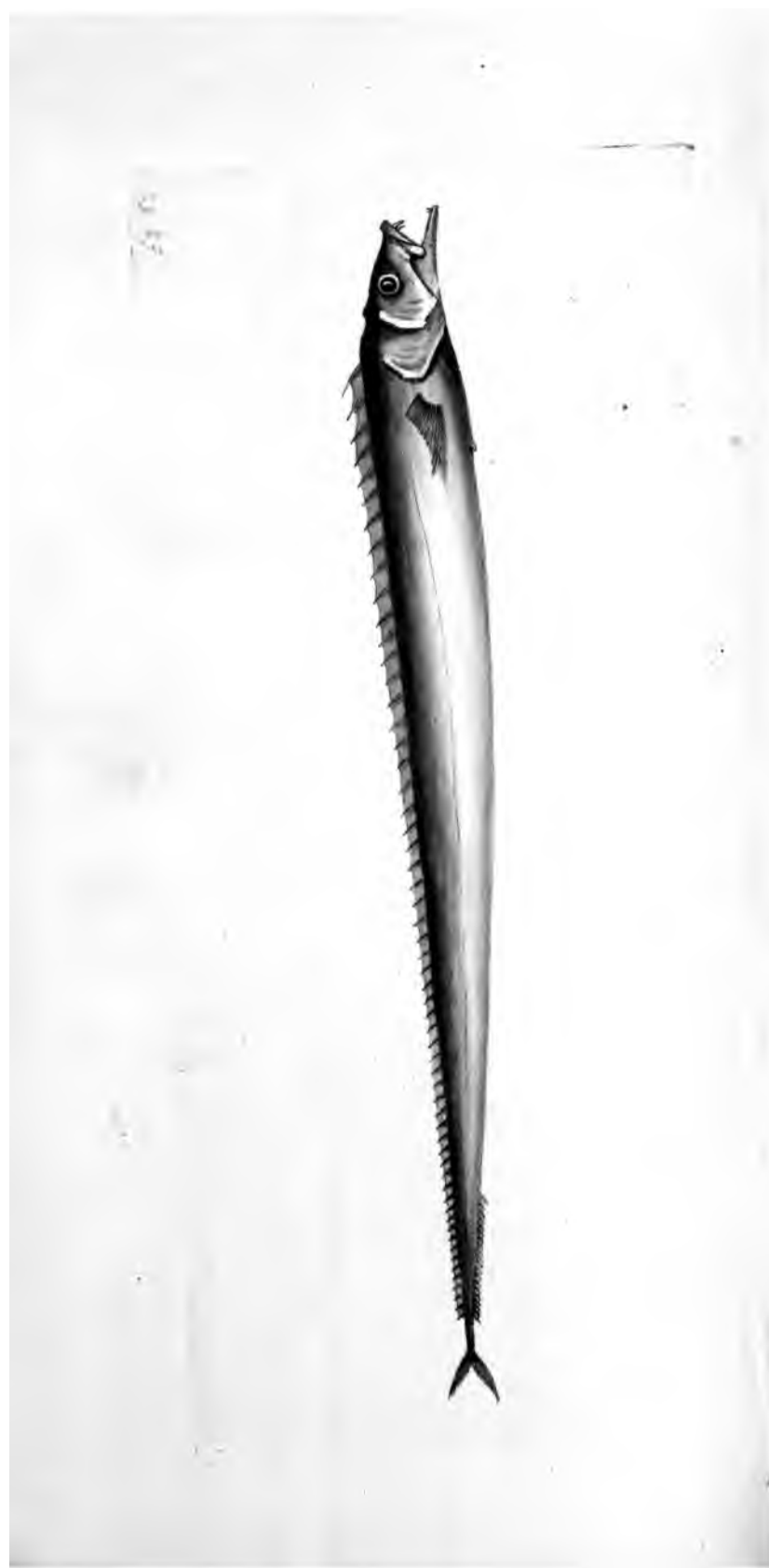
This magnificent species of *Pheasant*, commonly named the *Jungle Cock*, is a native of India, where it occurs in great plenty in woods and forests.

It is generally admitted to be the stock from whence all our domestic fowls have originated; but as this opinion is no where supported by evidence, and as change of climate has not been proved to cause such material differences as are found between this species and the numerous domestic varieties, I cannot but dissent from the generally-received opinion.



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LEPIDOPUS.

LEPIDOPUS, *Gouan, Cuv., Dum., Lac., Risso.*

VANDELLIUS, *Shaw.*

ZIPHOTHECA, *Montagu.*

CHARACTER GENERICUS.

Corpus longissimum, compressum, ensiforme: *caput* acuminatum mandibula inferiore longiore; *os* dentibus serie simplici acutis: *pinna dorsalis* longissima, *anal* brevis, *pectorales* mediocres, *ventrales* brevissimæ, lamelliformes.

LEPIDOPUS.

GENERIC CHARACTER.

Body very long, compressed, ensiform; *head* acuminate, under jaw longest; *mouth* with a single row of sharp teeth; *dorsal fin* very long, *anal* short, *pectoral* moderate, *ventral* very short, lamelliform.

TAB. LXII. LEPIDOPUS LUSITANICUS.

L. argenteus; pinnis pectoralibus (radiis inferioribus longioribus exinde) acutis.

Vandellius Lusitanicus. *Gen. Zool.* (*Shaw*), vol. iv. p. 199.

Ziphotheca tetradens. *Mem. Wern. Soc.* (*Montagu*), vol. i. p. 82, Pl. 2.

Habitat in oceano Europæo.

Mus. Britan. *Montagu.*

PORTUGUESE LEPIDOPUS.

Silvery; pectoral fins acute, (the lower rays being longest).

Dr. Shaw drew his description of this species from a fine specimen preserved in the British Museum, and Mr. Montagu shortly afterwards figured and described it in the *Memoirs of the Wernerian Society*, from one taken on the southern coast of Devon, under the name of *Ziphotheca tetradens*, from four of the upper-jaw teeth, which are larger than the others.

The length of Mr. Montagu's specimen was five feet six inches; of that in the British Museum, (from whence the annexed figure was taken) four feet seven inches. In the lower jaw towards the extremity, are two teeth rather larger than the others, and in the upper jaw on each side, are two teeth of a much superior size, placed out of the range of the other teeth, the hinder of which is smallest.

Risso, in his "*Ichthyologie de Nice**," has described a species of *Lepidopus* under the title *Peronii*, which he supposes may possibly be the same species with that described above; but on examining his figure, I am disposed to consider it as distinct; the pectoral fin is rounded, the middle radii being longest; the lateral line is represented as differing in its extremities, and the anal fin is considerably longer in proportion.

* *Page 148, Pl. 5, Fig. 18.*

PONTOBELLA.

Hirudo, Rondel., Linn., Bast., Gmel., Fleming.

CHARACTER GENERICUS.

Corpus subcontractile, oblongum, teres utrinque (antice præsertim) attenuatum.

SEALEECH.

GENERIC CHARACTER.

Body slightly contractile, oblong, round, both extremities, (especially the anterior extremity) attenuated.

This genus is figured by Rondeletius, who in his description seems to have confounded it with the genus *Arenicola*.

The species have been confounded with each other, under the titles *hirudo muricata*, *p. piscium*, and *sea-leech*.

Linné has referred to two figures for his *hirudo muricata*, one of which, in the "Museum Fridrici Adolphi," exhibits two hooks proceeding from the mouth of the animal, (and this figure has been copied into Pennant's British Zoology and Rees' Cyclopedia); the other figure in Baster's *Opuscula Subseciva**, leaves no doubt as to the genus intended.

* *Tab. x. Fig. 2, p. 82.*

TAB. LXIII.

SP. 1. PONTOBDELLA AREOLATA.

P. corpore lævigato, inermi, subareolato.

Habitat —

Mus. Societatis Linn.

AREOLATED SEALEECH.

Body smooth, without tubercles, divided into compartments.

This hitherto unnoticed species is preserved in the collection of Vermes, presented to the Linnean Society by the Right Hon. Sir J. Banks.

Its locality is not known.

ms. P. 100. v. 2. fol. 100. v.



1



Stomatopoda, Stomatopoda

TAB. LXIV.

SP. 2. PONTOBDELLA VERRUCATA.

P. corpore verrucoso, verrucis in annulos digestis.

Habitat —

Mus. Brit.

WARTED SEALEECH.

Body warted, the warts arranged into rings.

This species comes very near to the *hirudo piscium* figured by Baster, who in his description observes, that the warts vary much, according to the degree of contraction of the animal: this difference may be observed in our figures, which are taken from two specimens in the British Museum, but their locality is unknown.

TAB. LXV.

SP. 3. PONTOBELLA SPINULOSA.

P. corpore spinuloso.

Habitat in Angliæ Borealis et Caledoniæ mari raïorum sanguinem exhauriens.

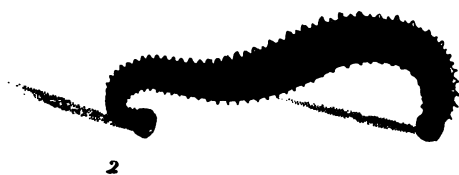
SPINULOSE SEALEECH.

Body spinulose.

This species is frequently found in the North-British seas adhering to skates, whence it derives the common appellation of *skate-sucker*.

In young specimens the spinules are disposed in irregular rings, but in older specimens, especially when much distended with blood, they are irregularly and widely sprinkled over the body.

When bruised they emit a dark liquor, that stains of a beautiful purple colour.



PHASIANUS.

Char. Gen. Tom. II. p. 5.

Divisio ** PHASIANI, *auctorum*.*Cauda* procumbens.*Aures* tectæ.

PHEASANT.

Generic Character, Vol. 2, page 5.

Division ** PHEASANTS, properly so named.

Tail bending downwards.*Ears* covered.

The pheasants of this division have generally a cuneiform tail, which is longest in the males, who are also distinguished from the females by the gaiety of their plumage, and by the wattled appearance of the sides of their heads.

Old females that have ceased to breed, often assume the general plumage of the males: this curious circumstance, which has since been noticed in several gallinaceous birds, was first observed in the common pheasant by Edwards.

PHASIANUS (**) TORQUATUS.

P. (Mas.) capite, gula, abdomine colloque atro-purpureis
 . hinc torque albo; vertice linea utrinque alba; jugulo,
 pectore antice pleurisque rubro-cupreis pennis atro ter-
 minatis; tectricibus plumbeis; dorso atro antice luteo
 maculato, postice albo rubroque vario.

Phasianus torquatus. *Gmel. Syst. Nat.* 1, 742.

Montagu Orn. Dic. Suppl.

Phasianus colchicus β . *Lath. Ind. Orn.* 2, 629.

Habitat in China indigena, (in Anglia).

RING PHEASANT.

(Male). Head, neck, throat, and belly black-purple; neck with a white ring; crown of the head white on each side; collar, anterior part of the breast and sides copper-red, the feathers tipped with deep black; wing and tail-coverts lead-coloured; back deep black, spotted anteriorly with clay-yellow, variegated posteriorly with white and red.

Ring Pheasant. *Lath. Gen. Syn.* 4, 715.

————— *Suppl.* p. 208.

This splendid bird is common in China, whence it has been introduced into England, and is now naturalised in several parts of the country.

It is distinguished from *P. colchicus* (the common pheasant) by the ring of white round its neck, and by the deep-indented black spots which terminate the feathers of the neck and sides.

The female is brown, with a mixture of reddish, dark brown, and grey, as in the common pheasant, of which it is generally supposed to be a variety.



stalk composed of two joints, the second of which is half the length of the first; *palpes* three-jointed, hairy, their last joint longest, the two first joints nearly equal; *legs* ten; *anterior pair* didactyle, (of the **MALE**, twice the length of the body, slender, rounded; *arms* cylindric; *hands* as long as the arms, somewhat compressed, slightly thickening towards their extremities; *wrists* very short); *four hinder pairs* very long, very slender; *claws* longer, slightly bent; *abdomen* six-jointed.

TAB. LXVII. LEPTOPODIA SAGITTARIA.

M. manubus granulosis; rostro utrinque, brachiis femoribusque antice spinulosis.

Inachus sagittarius. *Fabr. Sup. Ent. Syst.* 2, 359.

Cancer sagittarius. *Herbst.* tom. 3.

Macropus sagittarius. *Latr. Hist. Nat. des Crust. et des Insect.* 6, 112.

Maja sagittaria. *Latr. Gen. Crust. et Insect.* 1, 38, 4.
Leach, Edin. Encycl. 7, 395.

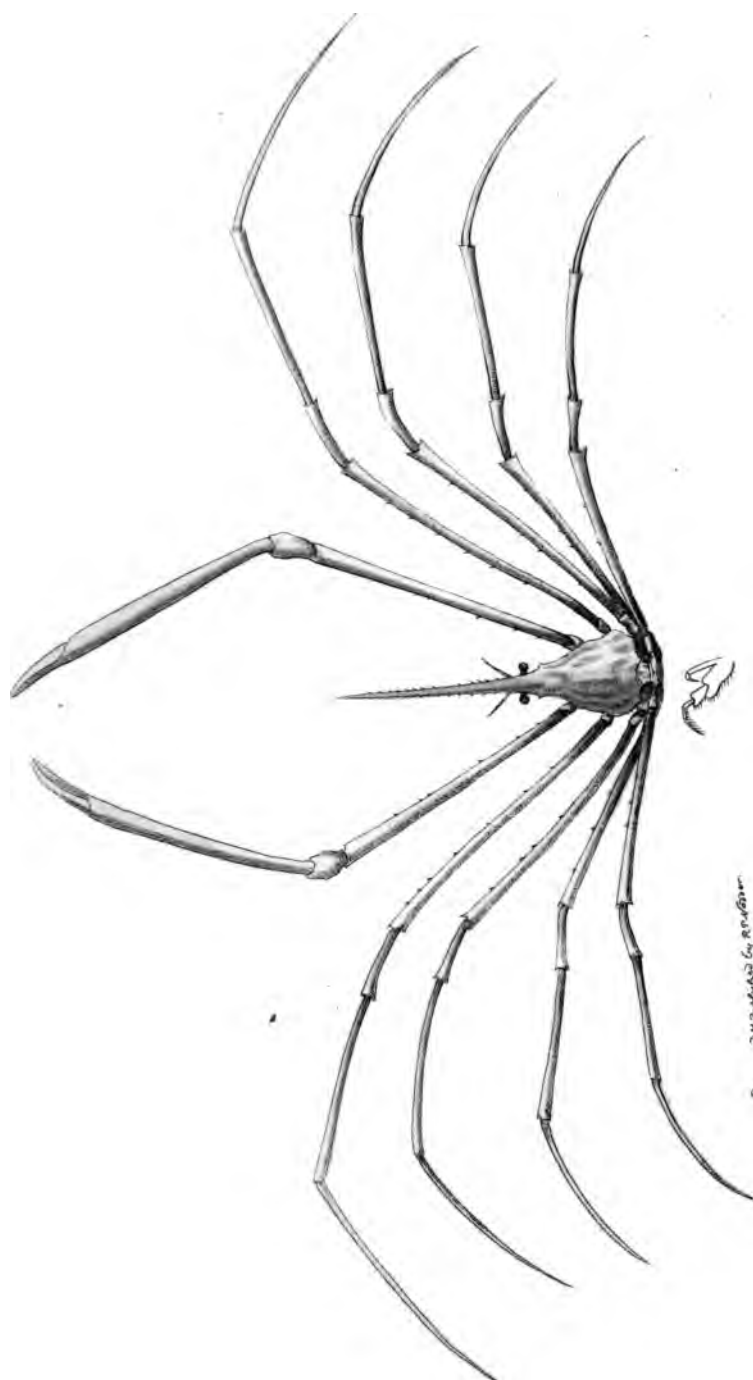
Maja sagittis. *Bosc Hist. Nat. des Crust.* 1, 253.

Habitat in mari Carribeo.

DARK-BEARING LEPTOPODIA.

Hands granulose; beak on each side, arms and anterior aspect of the thighs spinulose.

This species inhabits the West Indian seas. The female is unknown.



Scud *Erpenna* *viridis* *W. H. Dall*

MACROPODIA*.

INACHUS, *Fabricii.*CANCER, *Herbst.*MAJA, *Bosc.*MACROPUS, *Latreille.*LEPTOPODIA, *Leach.*MACROPODIA, *Leach.*

CHARACTER GENERICUS.

Testa sub-triangularis parce spinosa antice rostro longo, fisso terminata; *oculi* distantes subreniformes pedunculo multo crassiores; *antennæ exteriores* corporis dimidio longiores articulo secundo primo triplo longiore; *interiores* in clypei medio foveolis longitudinalibus receptæ; *pedipalpi* gemini externi tenues caule interno biarticulato, articulis longitudine subæqualibus; *palpi* 3-articulati, hirsutissimi, articulis medio brevioribus, tertio primo paululum longiore.

Pedes decem: *par anticum* didactylum, (MARIS corpore duplo longius; *manubus* elongato-subovatis, compressis; *carpis* manubus duplo brevioribus, angulatis; *brachiis* manuum longitudine angulatis); *paria* 4-postica, longissima, tenuissima; *ungues* 4-antici ad apicem arcuati, 4-postici ad basin abrupte curvati.

Abdomen 6-articulatum, tuberculato-subcarinatum segmento ultimo longiore.

* *Thunberg having applied to a natural genus of insects the term MACROPUS, I found it necessary to substitute the above name for this genus, which was instituted by Latreille.*

MACROPODIA.

GENERIC CHARACTER.

Shell somewhat triangular, with a few spines, anteriorly furnished with a long fissured rostrum; *eyes* remote, somewhat kidney-shaped, much thicker than their peduncles; *exterior antennæ* more than half the length of the body, the second joint three times as long as the first; *interior antennæ* received in longitudinal fossulæ under the clypeus; *external* double feet-palpes slender, with their internal foot-stalk composed of two nearly equal joints; *palpes* three-jointed, very hairy, with the middle joint shortest, the third longer than the first; *legs* ten, *anterior pair* didactyle (of the **MALE** longer than the body, with elongate-suboval compressed hands, *wrists* angulated, half the length of the hands, *arms* length of the hands, and angulated); *four* hinder pairs very long, very slender; *four anterior claws* bent at their points, *four hinder ones* abruptly bent at their base; *abdomen* six-jointed, with a slightly tuberculated carina, the last segment longest.

The generic character of *Macropodia* is introduced, to enable the reader to compare it with that of *Leptopodia*, to which it is nearly allied. As an example of the genus, the following species is given, which with another species, will be figured in Plate 23, of *Malacostraca podophthalma Britannicæ*.

MACROPODIA PHALANGIUM.

Cancer phalangium. *Penn. Brit. Zool.* iv.

Macropus longirostris. *Latr. Gen. Crust. et Ins.* 1, 39.

Macropodia longirostris. *Leach, Edinb. Encycl.* 7, 395.

PACTOLUS.

CHARACTER GENERICUS.

Testa subtriangularis antice rostratata ; *rostrum* integrum ;
oculi distantes, subglobosi pedunculo crassiores.

ABDOMEN FEMINÆ 5-articulatum, articulis primo angusto,
 2, 3 et 4 transverso-linearibus, 5 amplissimo subrotun-
 dato.

Pedes mediocres decem ; paria 1, 2 (et 3 ?) ungue simplici
 instructa, 4 et 5 didactyla.

PACTOLUS.

GENERIC CHARACTER.

Shell somewhat triangular, terminated anteriorly with an
 entire beak ; *eyes* somewhat globose, remote, thicker
 than their peduncles.

Abdomen of the female five-jointed, the first joint narrow,
 the second, third, and fourth transversely linear, the
 fifth very large and somewhat rounded.

Legs moderately long, ten in number ; the first and second
 (probably also the third ?) pairs furnished with a simple
 claw, fourth and fifth pairs didactyle.

This curious and anomylous genus has escaped the ob-
 servations of all crustaceologists, and although the palpi,
 antennæ, and the extremities of the third pair of legs be
 wanting, yet the remaining characters are so very strong,
 that I cannot refrain from publishing an account of the
 existing parts, which are too interesting to be permitted to
 remain undescribed. The internal antennæ are received
 into two longitudinal cavities between the eyes, as in the
 genera *Macropodia* and *Leptopodia*.

TAB. LXVIII. PACTOLUS BOSCHII.

P. rostro utrinque spinuloso ; pedibus ciliato-punctatis.

Habitat ———

Mus. Britan.

BOSC'S PACTOLUS.

Rostrum on each side with little spines ; legs with ciliated punctures.

Behind the eyes, in a line with the spines in the sides of the rostrum, are two small spines.

The first joint of the external antennæ alone remains, and this is shown in the figure. The dotted line in the plate, exhibits the supposed form of the termination of the middle pair of legs.

A single specimen of this crustaceous animal occurs in the British Museum, but its locality is unknown.

Fabricius seems to have considered it as the other sex of *Leptopodia sagittaria**; if this conjecture prove right, his character is incorrect.

* "*Pedes in altero sexu mediocres, rufo alboque variegati omnibus chelatis.*"



Drawn by James G. Published by R. P. Weston, Treasurer of London.

ATYLUS.

CHARACTER GENERICUS.

Antennæ 4-articulatæ segmento ultimo e plurimis articulis minutis efformato; *superiores* subbreiores articulo secundo tertio longiore; *inferiores* articulo secundo tertio subbreiore.

Oculi sub-prominentes rotundati inter antennas in capitis processum inserti.

Pedes 14; paria 1 et 2 monodactyla manū parvula, compressa, 3, 4, 5, 6 et 7 ungue simplici instructa.

Cauda utrinque stylis duplicis tribus et superne stylulo utrinque mobili instructa.

Corpus (capitē includente) 12-articulatum.

ATYLA.

GENERIC CHARACTER.

Antennæ composed of four joints, the last of which is formed of several minute articulations; *upper ones* rather shortest, with the second longer than the third joint; *under ones* with the second joint rather shorter than the third.

Eyes slightly prominent, inserted on a process between the upper and lower antennæ.

Legs fourteen; first and second pair furnished with a small compressed hand, which has a moveable thumb; the other pairs having only a simple claw.

Tail, on each side, with a triple series of double styles; upper part, on each side armed with a small spine or style.

Body (including the head) composed of twelve joints.

TAB. LXIX. ATYLUS CARINATUS.

**A. capite rostrato, rostro decedente ; abdomine segmentis
quinque ultimis carinatis postice que acute-productis.**

Gammarus carinatus. Fabr. Ent. Syst. 2, 515, 3.

Habitat ———

Mus. Brit.

CARINATED ATYLA.

Head rostrated, rostrum turning downwards ; abdomen
with the five last segments carinated, and behind acutely
produced.

The figure represents *Atylus carinatus* of the natural
size. As our description is taken from the specimens de-
scribed by Fabricius, no doubt can be entertained as to the
reference, although that author has erroneously stated the
hands* to be simple.

* “ *G. manibus adactylis, &c.* ”

DEXAMINE.

CANCER (Gammarus) *Montagu.*

DEXAMINE, *Leach.*

CHARACTER GENERICUS.

Antennæ triarticulatæ segmento ultimo e plurimis articulis minutis efformato, segmento primo secundo brevior; superiores longiores.

Oculi oblongi haud prominentes pone antennis superiores inserti.

Pedes 14; paria 1 et 2 monodactyla manu parvula, compressa, 3, 4, 5, 6 et 7 ungue simplici instructa.

Cauda utrinque stylis duplicis tribus, superneque stylo utrinque mobili instructa.

Corpus (capitè includente) 12-articulatum.

DEXAMINE.

GENERIC CHARACTER.

Antennæ three-jointed, the last segment composed of a number of minute joints; first segment shorter than the second; *upper antennæ* longest.

Eyes oblong, not prominent, inserted behind the superior antennæ.

Legs fourteen; first and second pair monodactyle, with a small compressed hand; other pairs furnished with simple claws.

Tail, on each side, with three double styles; above, with one small style on each side.

Body (including the head) twelve-jointed.

DEXAMINE SPINOSA.

D. corpore nitido, punctato, segmentis ~~quatuor ultimis~~ postice spinoso-productis : fronte inter antennæ producto, deflexo.

Cancer Gammarus spinosus. *Montagu, Trans. Linn. Soc.* 11, p. 3.

Dexamine spinosa. *Leach, Edin. Encycl.* vol. 7.

Habitat in Angliæ Australis mari.

SPINOUS DEXAMINE.

Body shining, the ninth, tenth, eleventh, and twelfth segments produced into a spine ; front produced and bent downwards between the antennæ.

The first joint of the upper antennæ beneath towards their tips, have a little spine-like process.

It is very common on the southern coasts of England, and is often taken by the shore-net, or beneath stones amongst the rocks at low tide. The legs are easily broken, which circumstance will account for Montagu's having described and figured it without the monodactyle hands.

Length three quarters of an inch.

ACTIAS.

PHALENA, Linnei.
BOMBYX, Fabricii, &c.

CHARACTER GENERICUS.

Alæ horizontales fenestratæ cellulis discoidalibus imperfectis; *anticæ* obscurè subfalcatæ; *posticæ* ad angulum analem in caudam longissimam productæ.

Antennæ articulo singulo utrinque biramoso.

Corpus pube densa villosum.

ACTIAS.

Wings horizontal and fenestrated, with imperfect discoidal cells; *anterior ones* obscurely sickle-shaped; hinder ones with their anal angle produced into a very long tail-like process.

Antennæ of the male with every joint on each side doubly branched.

Body covered with a thick down.

In the following page will be given descriptions of two species hitherto confounded together, the characters of which were communicated by my worthy friend A. Macleay, Esq.

TAB. LXX. ASTIAS LUNA.

A. alis concoloribus flavo-virentibus : ocello disci lunato ;
anticarum strigæ costalis fuscae ramulo ocellum atti-
gente. *Macleay, MSS. (Bombyx).*

Phalæna (attacus) Luna. Linn. Syst. Nat. 1, 810, 5.

Bombyx Luna. Fabr. Ent. Syst. 3, 414, 22.

Phalæna Luna. Drury Ins. 1, tab. 24, fig. 1.

Cram. Inst. 1, tab. 2, fig. A.

Habitat in America septentrionali.

LUNAR ACTIAS.

Wings uniformly yellowish-green ; central ocellus lunate,
and connected with the brownish costal margin by a little
branch.

This very beautiful insect is a native of North America,
and is very common in Georgia : Crammer, Fabricius, and
after them Smith, have confounded it with the following
species, under the name *Luna*, from which it may readily
be distinguished by the excellent specific characters, which
were drawn up by my friend A. Macleay, Esq.

ACTIAS SELENE.

B. alis concoloribus glaucis ; ocello disci lunato distincto
strigæ postica obscura. *Macleay, MSS. (Bombyx).*

Phalæna Luna. Cram. Ins. I. tab. 31, fig. A. B.

Habitat in India.

MOON ACTIAS.

Wings uniformly glaucous, with central ocellus lunate dis-
tinct, and an obscure posterior streak.

Inhabits India.



TURDUS.

TURDUS, Ray, Briss., Linn., Gmel., Lath., Cuv. &c.

MERULA, Ray, Brisson.

CHARACTER GENERICUS.

Rostrum sub arcuatum, apice deflexo, emarginato; *nares* ovatæ, nudæ, vel membranula semitectæ.

Pedes simplices, digitis tribus anticis, uno postico.

Cauda mediocris.

THRUSH.

GENERIC CHARACTER.

Beak very slightly arcuate, with the point bent downwards and notched; *nostrils* ovate and naked, or half covered with a membrane.

Legs simple, with three toes before, and one behind.

The **TURDI** are extremely numerous, and are found in various parts of the globe: their food consists principally of berries; but some of the species who inhabit temperate climates (especially in the winter season) also devour snails, slugs, and earth-worms.

The old naturalists divided this genus into two sections, viz. *Turdi* (*Thrushes*), those species with a spotted plumage, and *Merulæ* (*Orioles*), including those, whose plumage is of nearly a uniform tint: these distinctions are still retained by English ornithologists.

TAB. LXXI. TURDUS SPLENDENS.

T. violaceo-splendens; dorso alisque olivaceo-nitentibus his maculis atris.

Turdus nitens β. *Lath. Ind. Orn.* 1, 347, 66.

Le Merle vert d'Angola. *Buff. planc. Entom.* 561.

Habitat in Angola, et ad caput Bonæ spei.

SPLENDENT THRUSH.

Shining violet; back and wings shining olive-green, the latter with pure black spots.

English ornithologists generally admit this to be a distinct species from the shining thrush, (*turdus nitens*). It inhabits Angola and the Cape of Good-Hope; is less common than the shining thrush, and is represented in the annexed plate about one half of the natural size.



MODIOLA.

MYTILLUS, *auctorum*.

MODIOLA, *Lamarck, Sowerby*.

CHARACTER GENERICUS.

Testa bivalvis, subtransversa, inæquilatera; latere postico brevissimo umbo ad brevissimum latus incumbens. *Cardo* sæpius edentulus. *Fossula ligamentalis* linearis marginalis. *Impressio muscularis* unica.

ANIMAL bissoferum.

GENERIS DIVISIONES.

* *Cardo* edentulus.

- a. *Testa lævis; latere postico aliformi.*
- b. *Testa longitudinaliter et oblique costato-striata; latere postico aliformi.*
- c. *Testa antice et postice costato-striata; latere postico rotundato.*

** *Cardo* dentatus.

- a. *Testa lævi; latere postico rotundato.*
- b. *Testa longitudinaliter aut oblique striata; latere postico aliformi.*

MODIOLE.

GENERIC CHARACTER.

Shell bivalve, nearly transverse, unequal-sided, the hinder side very short. *Beak* resting on the shortest side.

Hinge generally edentulous. *Ligamental excavation* linear, marginal. *Muscular impression* one.

ANIMAL furnished with a byssus.

The above character, with little alteration, is extracted from a dissertation by Lamarck, who first separated this

genus from *Mytilus* (*muscle*), with which it had been confounded by all preceding writers.

All the *Modiolas* inhabit the sea; their shells are readily distinguished from those of true *muscles* by the position of the beak, which is in that genus terminal, in this lateral.

The species, without any violation of nature, may be arranged into the following sections:

* Hinge without teeth.

- a. *Shell smooth; hinder side wing-shaped.*
- b. *Shell longitudinally and obliquely striated with raised ribs.*
- c. *Shell with the two extremities ribbed; hinder side rounded.*

** Hinge with teeth.

- a. *Shell smooth; hinder side rounded.*
- b. *Shell longitudinally or obliquely striated; hinder margin wing-shaped.*

* a.

The shells of the *Modiolæ* of this section, when young, have their epidermis elevated and beard-shaped.

SP. 1. MODIOLA AMERICANA.

TAB. LXXII. FIG. I.

M. testa fusca (sub epidermide oblique radiata); latere postico ala subangulata; latere antico subsinuato.

Habitat in oceano Americano.

AMERICAN MODIOLE.

Shell fuscous (beneath the epidermis obliquely rayed); hinder side with the wing slightly angulated; anterior side slightly sinuated.

The specimen from which our figure is taken, was received from Bermuda, and is preserved in the British Museum. It is not an uncommon shell in the American seas:



it may be readily distinguished from the young of the following species by the specific characters, which are the result of the examination of a vast number of individuals of each species.

SP. 2. MODIOLA PAPUANA.

M. testa fusca (sub epidermide albida) ; latere postico ala rotundata ; latere antico distincte sinuato.

Musculus papuanus. *D'Argen. Conch.* tab. 22, f. c.

Mytilus Modiolus. *Linn. Syst. Nat.* 1, 1158.

Gmel. Syst. Nat. 1.

Mont. Test. Brit. 1, 163—*Supl.* p. 71.

Modiola papuana. *Lam. Syst. des Anim. sans. Vert.* 113, 101.

Var. β . latere antico abrupte umbilicato.

Mytilus umbilicatus. *Penn. Brit. Zool.* iv. 112, tab. 65.

Habitat in mari Mediterraneo et in oceano Europæo vulgaris.

HORSE MODIOLE.

Shell fuscous (beneath the epidermis whitish) ; hinder side with a rounded wing ; anterior side distinctly sinuated.

This species is common in the European ocean and Mediterranean sea. On our coast it is called the horse-muscle.

It sometimes grows to the length of nine or ten inches, and is subject to great variation in colour, being found black, fuscous, and luteous, but beneath the epidermis the shell is invariably whitish. In the young state it has been considered as forming two species, which have been described by Pennant and Donovan under the names *curtus* and *barbatus*. The beard-like epidermis of the young shell is simple, and not serrated. Pennant considered the umbi-

licated variety as a distinct species ; and in this opinion he was supported by Donovan and Montagu ; the latter author, however, in the supplement to his *Testacea Britannica*, admits *M. umbilicatus*, *curtus*, *barbatus*, and *modiolus* of Pennant, to be one and the same species.

SP. 3. MODIOLA GIBBSII.

TAB. LXXII. FIG. II.

M. testa fusca sub epidermide albida ; interne albida postice rufescente ; latere antico late sinuato ; latere postico ala rotundata.

Habitat ———

GIBB'S MODIOLA.

Shell externally fuscous, beneath the epidermis whitish ; internally whitish, with the posterior side reddish ; anterior margin with a broad sinuation ; hinder margin with a rounded wing.

This species was first noticed as a distinct species by Mr. Gibbs (formerly collector for Montagu), who found several specimens on one of the western coasts of England. I have likewise seen a single specimen which was taken at Dawlish ; but until farther proof shall have been produced of its being a constant inhabitant of our coasts, I shall refrain from adding it to the British Fauna, which is already swelled by the addition of many very doubtful inhabitants of our coasts.

The serrated epidermis or beard, as well as the reddish mark within the shell, distinguishes it from *MODIOLA PAVANA* ; the whole form of the shell also is different.

* b.

SP. 1. MODIOLA PRIDEAUX.

M. testa postice cancellis elongatis; latere postico ala rotundata, latere antico medium versus late sinuato.

Habitat in Angliæ occidentalis mari.

PRIDEAUX'S MODIOLA.

Hinder part of the shell with elongated cancelli; hinder side with a rounded wing; anterior side towards the middle, broadly sinuated.

The discovery of this beautiful little shell (which does not exceed a quarter of an inch in length), is due to C. Prideaux, Esq. of Kingsbridge: several specimens were found by that gentleman amongst sand, from Milton on the southern coast of Devon, and it is named after him; a tribute due to one of the most zealous and active investigators of the marine zoology of Britain.

* c.

This section contains several obscure species, which have been confounded together under the titles of *Mytilus discors*. Montagu describes two species as natives of Great Britain: one he has named *M. discors*, (but I am by no means satisfied that it is the *discors* of Linné); the other, which is a very distinct species, *discrepans*.

SP. 1. MODIOLA DISCREPANS.

M. testa nigra ; postice costis perpaucis, antice costis numerosissimis, angustis, rotundatis, crenulatis, (sulcis sæpe crenulatis exinde cancellatis) ; latere antico medium versus late sinuato.

Mytilus discrepans. *Mont. Test. Brit.* 1, 169—*Supl.* p. 65, t. 26, f. 4.

Fleming, Edin. Enc. art. Conchology.

Habitat in mari Scotico.

DISCORDANT MODIOLE.

Shell black ; hinder part with a few ribs, anterior part with a vast number of narrow, rounded crenulated ribs, (with the interstices often wrinkled so, as to produce a cancellated structure) ; anterior side, towards the middle, broadly sinuated.

This species is very common in the Scottish sea, and in the Frith of Forth is often found of one inch and a quarter in length. Montagu says, that small specimens are common on the Devonshire coasts. When young, it is often luteous or greenish ; when old, it is always black, with decorticated beaks.

** a.

SP. 1. MODIOLA INCURVATA.

TAB. LXXII. FIG. III.

M. testa olivaceo-virens, subiridescens ; latere antico lutescente late et profunde emarginato.

Habitat ———

BENT MODIOLE.

Shell greenish-olive, slightly iridescent; anterior side luteous, deeply and broadly notched.

Several specimens of this species, all having decorticated beaks, occur in the cabinet of shells in the British Museum. The curved appearance arises from the depth of the notch on the anterior side of the shell. The locality is unknown.

** b.

To this section, *Mytilus præustus* (which seems to have been confounded with other kindred species) is referable.

EGERIA.

CANCER, *Herbst.*

CHARACTER GENERICUS.

Testa spinosa antice rostro elongato terminata; *oculi* magni pedunculo multo crassiores; *orbita* postice bifissa inferne unifissa.

Antennae exteriores ad rostri latera insertae articulis duobus primis crassioribus secundo primo multo brevior.

Pedes duo antici didactyli; *MARIS* corpore subduplo longiores, subfiliformes aliis vix crassiores; *pedes* 8 postici longissimi, tenuissimi, consimiles (ordine 2, 3, 4 et 5); *ungues* elongati, subarcuati, tenuissimi.

Pedipalpi gemini externi caulis interni articulo secundo latere inferiore recto apice interno abrupte prominulo.

EGERIA.

GENERIC CHARACTER.

Shell spinous, terminated in front by an elongate beak; *eyes* large, and much thicker than their peduncle; *orbit* behind with two, below with one fissure.

External antennae inserted at the lateral base of the rostrum, the two first joints longer than the rest, the first much longer than the second.

Legs, anterior pair didactyle; (of the *MALE*, about twice the length of the body, nearly filiform, and scarcely thicker than the others); four hinder pair very long, very slender, and of equal thickness and form (magnitude 2, 3, 4 and 5); *claws* elongate, somewhat arcuate, very slender.

External double palpes with the inner side of the second joint of the internal footstalk strait, with the internal apex abruptly prominent.

TAB. LXXIII. EGERIA INDICA.

E. rostro acute emarginato ; testa pone rostrum tuberculis septem ordine 3, 2, 1, et 1.

Herbst 1, tab. xvi. fig. 93.

Habitat in oceano Indica.

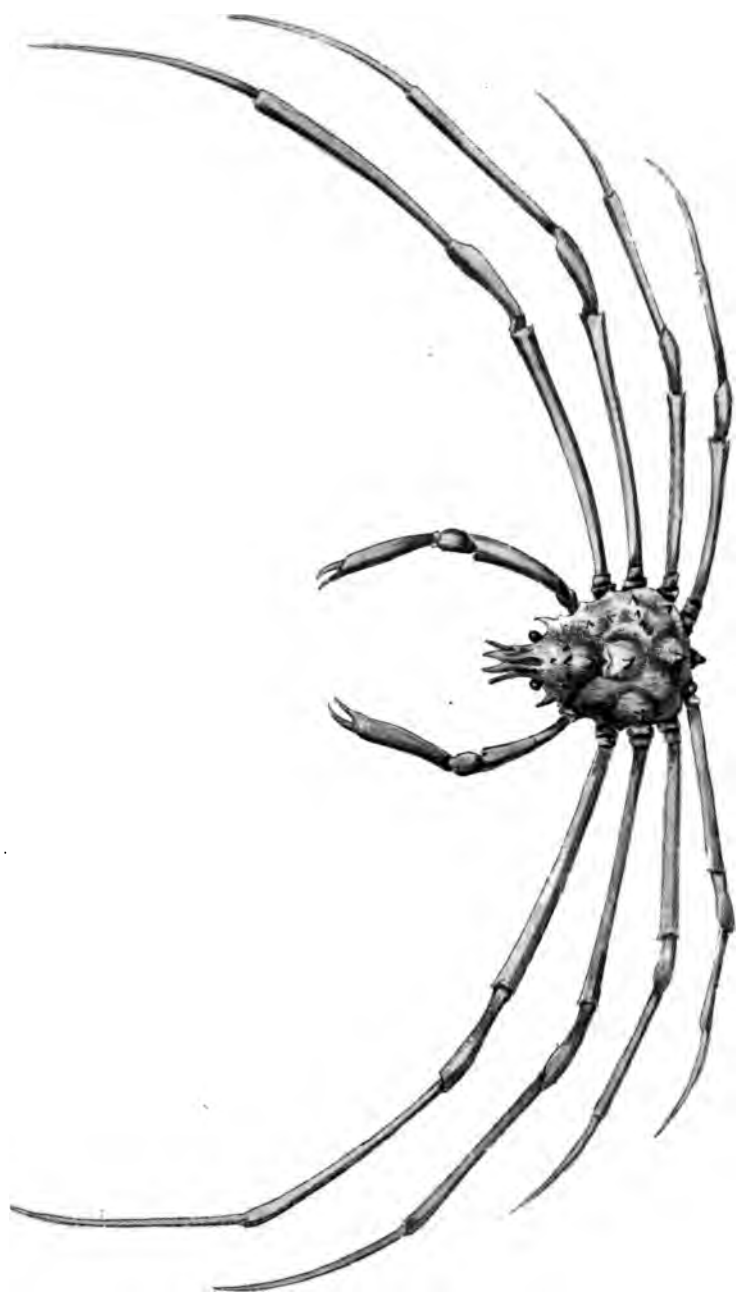
Mus. Societ. Linn. et Mus. Britann.

INDIAN EGERIA.

Beak acutely notched ; shell behind the beak, with six tubercles arranged in transverse lines, 3, 2, 1, and 1.

Col. Hardwicke deposited this species, together with his magnificent collection of Indian malacostraca, in the cabinet of the Linnean Society, and in the British Museum.

Egeria Indica is not uncommon in the Indian ocean.



Neohelice granulata

DOCLEA.

CHARACTER GENERICUS.

Testa villosa lateribus subspinosis, antice rostro brevi terminata; *oculi* mediocres pedunculo multo crassiores; *orbita* postice et inferne unifissa.

Antennæ exteriores ad rostri latera insertæ articulo secundo primo brevior.

Pedes duo antici didactyli (FEMINÆ corporis longitudine filiformes aliis tenuiores); *pedes* octo postici tenues longi, subconsimiles pari secundo subcrassiore (ordine 2, 3, 4 et 5); *ungues* elongati, tenues, arcuati.

Pedipalpi gemini externi caulis interni articulo secundo latere interno apicem versus profunde emarginato.

DOCLEA.

GENERIC CHARACTER.

Shell villose, with somewhat spinous sides, terminated in front by a short beak; *eyes* moderate, much thicker than their peduncles; *orbit*, behind and below, with one fissure.

External antennæ inserted at the base of the beak, the second joint shorter than the first.

Legs, anterior pair didactyle; (of the FEMALE, as long as the body, filiform, and more slender than the others); eight hinder legs slender, long, and nearly alike, the second pair being rather thicker, (in order, 2, 3, 4 and 5); *claws* elongate, slender, arcuate.

External double palpes with their internal footstalk having the internal side of the second joint towards the apex deeply notched.

TAB. LXXIV. DOCLEA RISSONII.

D. testa pedibusque brunneo-pubescentibus illâ postice unispinosâ ; lateribus utrinque trispinosis.

Habitat ———

Mus. Britann.

RISSO'S DOCLEA.

Shell and feet with brown pubescence ; hinder part of the shell with one spine ; each side with three spines.

This species of Doclea is named after the author of the "Ichthyologie de Nice," who is about to publish "Histoire des Crustacées de Nice," which is now in the press.

I have seen but one specimen, and its locality is unknown.



RUTELA.

RUTELA, Latreille, Leach.

CETONIA, Fabr., Oliv.

MELOLONTHA, Fabr., Oliv., Donovan.

CHARACTER GENERICUS.

Caput subtrigonum antice obtusum, subreflexum; *mandibulae* ad apicem internum tri-denticulatæ; *palpi* articulo ultimo elongato-ovato, subcrassiore; *antennæ* clava oblonga, triphylla, longitudinis totius illarum dimidium æquante.

Thorax transversus antice angustior emarginatus.

Epigastrium antice productum; *elytra* simplicia margine nec dilatato nec canaliculato; *scutellum* trigonum diametris subæqualibus.

Pedes robusti; *ungues* magnitudine inæquales.

RUTELA.

GENERIC CHARACTER.

Head somewhat triangular, anterior part obtuse, and somewhat reflexed; *mandibles* with three little teeth on their interior point; *palpi* with last joint oblong-ovate, and thicker than the other joints; *antennæ* with an oblong three-leaved club half as long as the antennæ.

Thorax transverse, anteriorly narrower, and notched.

Epigastrium produced in front; *elytra* simple, their margin neither channelled nor dilated; *scutellum* triangular, with equal diameters.

Legs strong; *claws* unequal in size.

The species of this genus have very brilliant colours, and are principally natives of South America and of New Holland.

TAB. LXXV. FIG. I.

RUTELA VIRIDI-ÆNEA.

R. viridi-ænea punctulata ; elytris basi punctatis punctis in strias subdigestis ; antennis pedibusque castaneis ; tarsis nigris.

Melolontha viridi-ænea. *Donov. Ins. New Holl.*

Habitat in Australasia.

GREEN-BRASSY RUTELA.

Green-brassy and punctulated ; base of the elytra with punctures slightly arranged into striæ ; antennæ and legs chesnut ; tarsi black.

Inhabits New Holland.

TAB. LXXV. FIG. II.

RUTELA VIRIDI-TARSIS.

R. sub castanea ; thorace scutelloque æneis ; elytris punctatis punctis in strias digestis ; tarsis viridibus.

Habitat in Australasia vulgatissimè.

GREEN-FOOTED RUTELA.

Somewhat chesnut-coloured ; thorax and scutellum æneous ; elytra with punctures arranged into striæ ; tarsi green.

This is a most common insect in New Holland, and has been confounded with the preceding species. The extremity of the abdomen has always a tuft of fulvous hair, which although not peculiar to this species, is never found in *R. viridi-ænea*.



POGONIA.

Bucco, *Latham, Gmelin.*

POGONIA*, *Vieillot. MSS.*

CHARACTER GENERICUS.

Rostrum magnum, crassum basi ciliatum; *mandibula superior* utrinque bidentata.

Pedes simplices digitis duobus anticis, duobus posticis.

POGONIA.

GENERIC CHARACTER.

Beak large, thick, with the base ciliated; *upper mandible* with two teeth on each side.

Legs simple, with two toes before, and two behind.

The genus POGONIA* was proposed by Mons. Vieillot, in a paper sent by that gentleman to the Linnean Society, and as it is a natural one, I have adopted it. By Latham and Gmelin, the birds of this genus were placed with Bucco.

* *Πογωνος barbatus.*

TAB. LXXVI. POGONIA SULCIROSTRIS.

P. cyaneo-ater ; gula, jugulo, abdomine fasciaque obscura alarum coccineis ; lateribus flavidis ; dorso macula alba ; remigibus fuscis ; rostro mandibula superiore longitudinaliter unisulcato, inferiore sulcis transversis exarata.

Bucco dubius a. *Lath. Ind. Ornithol.* 206, 16.

Habitat in Africa.

GROOVE-BEAKED POGONIA.

Blue black ; throat, neck, belly, and an obscure band on the wings, scarlet ; sides yellowish ; back with a white patch ; wing-quills dark brown ; upper mandible with one longitudinal, under with several transverse grooves.

The description of this species is drawn from three specimens that were lately received from Africa ; and although Dr. Latham, in his description of *Bucco dubius* (*doubtful Barbet*), has not noticed the band on the wings, and the yellowish sides of the abdomen, yet as these characters might easily be overlooked in a stuffed specimen, or be wanting in some individuals, I have little hesitation in referring his synonym to the above species, although the grooves on the beak may be hereafter found to be a character common to other species.



Drawn & engraved on Copper by R. Nodding. Published by J. Smith, 17, Strand, London.



Drawn Engraved & Published by J. P. A. 1850

TAB. LXXVII. POGONIA LÆVIROSTRIS.

P. ater ; gula, jugulo, pectore, abdomine fasciaque alarum
 coccineis ; dorso macula alba ; vertice coccineo-varie-
 gatus. Rostrum lævi haud sulcato.

Habitat in

Mus. Hist.

SMOOTH-BEAKED POGONIA.

Black ; throat, neck, breast, abdomen, and a band on the
 wings, scarlet ; back with a white spot ; crown of head
 variegated with scarlet ; beak smooth, not grooved.

I am unacquainted with the locality of this species, a
 fine specimen of which is preserved in the British Museum.

It may at once be distinguished from *Pogonia sulcirostris*
 by its beak ; but as other species without grooves, may
 be hereafter discovered, comparative characters in this, as
 in other instances, should be used with the greatest cau-
 tion.

PISA.

CANCER, *Montagu.*PISA, *Leach.*

CHARACTER GENERICUS.

Testa dense villosa, tuberosa antice rostro bifido terminata ; *rostrum* laciniis divaricatis ; *oculi* pedunculo subcrassiores ; *orbita* postice bifissa, infra unifissa.

Antennæ exteriores hirtæ pilis basilaribus clavatis, articulo primo secundo multo longiore.

Pedipalpi gemini externi caulis interni articulo secundo ad apicem internum emarginato, aut truncato.

Pedes duo antichi didactyli aliis distincte crassiores ; (MARIS corpore longiores, FÆMINE corporis longitudine) ; *pedes* octo postici mediocres ; *ungues* denticulati apice nudi.

PISA.

Shell thickly covered with down, tuberculated, terminated in front by a bifid rostrum with diverging points ; *eyes* somewhat thicker than their peduncle ; *orbit* with two fissures behind and one below.

Exterior antennæ bristly, the basal hairs clubbed, the first joint much longer than the second.

External double pedipalpes with the second joint of their internal footstalk notched at their internal apex.

Anterior pair of legs didactyle, distinctly thicker than the others ; (of the MALE, longer than the body—of the FEMALE, as long as the body) ; *eight other legs* moderately long ; *nails* denticulated, with naked points.

There is a spine on each side, between the base of the rostrum and the eyes.

TAB. LXXVIII. PISA NODIPES.

P. rostro horizontali ; brachiis femorumque apice nodosis.

Habitat ———

KNOT-LEGGED PISA.

Rostrum horizontal ; arms and tips of the thighs knotted.

The annexed plate represents the male, the abdomen of the male and female, with the external double pedipalpe, of the natural size, executed from a drawing by Mr. James Sowerby, jun.

This species may readily be distinguished from *PISA GIBBSII*, (*cancer biaculeatus*, Montagu), by the tubercles on the tops of the thighs and on the arms, and by the position of the rostrum, which in that species bends downwards.

A figure of *P. Gibbsii* will be shortly given in *Malacostaca Podophthalmata Britanniae*, Tab. 20.



Cyrtus radialis G. R. S. 1860

GORGONECEPHALUS.

ASTERIAS, *Linné, Gmelin, &c.*

OPHIURA, *Lamarck.*

GORGONECEPHALUS, *Leach.*

CHARACTER GENERICUS.

Corpus subconvexum radiis quinque dichotomis, ramosis

• *ramis* ramulosis lateribus subspinulosis.

Os inferius, echinatum, pentagonum.

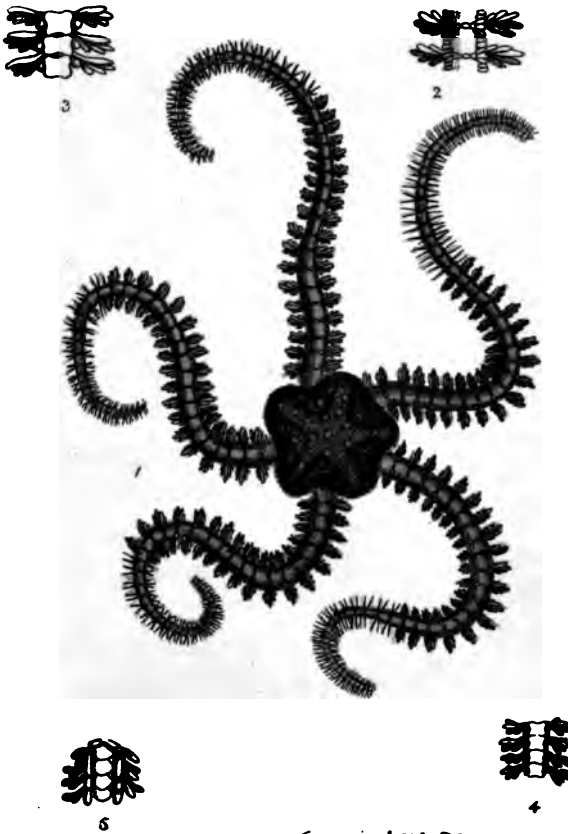
MEDUSAHEAD.

Body somewhat convex, with five dichotomous branched rays, having the sides slightly spined, the branches bearing twigs.

Mouth placed beneath, five-sided, spined.

Linné comprehended the species which constitute this genus, under the general title of *Asterias Caput-Medusæ*, and in this he has been followed by most writers. Gmelin, however, on the authority of Retzius and Linch, enumerates another species, named *Euryale*.

All the species have an oblong perforation on each side of the base of the under part of every ray, as in *Ophiura*, from which I formerly separated this genus, on account of its branched rays.



Echinaster *Enggremmii* n. sp. *Enggremmii* n. sp. *Enggremmii* n. sp. *Enggremmii* n. sp. *Enggremmii* n. sp.

OPHIURA.

OPHIURA, *Lamarck, Duméril.*

ASTERIAS, *Linneé, &c.*

CHARACTER GENERICUS.

Corpus valde depressum rotundatum radiis quinque distantibus integris, squamosis, lateribus spinosissimis, *spinis* mobilibus, in lineas transversas digestis.

Os inferius, simplex, pentagonum.

OPHIURE.

GENERIC CHARACTER.

Body much depressed, rounded, with five distant, entire, squamous rays, with very spinous sides; *spines* moveable.

Mouth simple, five-sided, placed beneath.

The species of this genus are distinguished by the sculpture of their disc, by their spines, and by the form of the scales. They are preserved with difficulty, owing to their breaking to pieces by the violence of their contractions when taken from the ocean.

The following species have been examined, but I cannot venture to affix any synonyms.

SP. 1. OPHIURA LINCKII.

TAB. LXXIX. FIG. IV. V.

O. corpore granulato inter radias bilobato; *radius*, squamis transversis ovatis subgranulatis; *spinis* simplicibus elongato-subconicis obtusis, superioribus crassis apice acuminatis.

Habitat ———

Mus. Brit.

LINCK'S OPHIURE.

Body granulated, bilobate between the rays; rays with transverse ovate, somewhat granulated scales; spines simple elongate-subconic, obtuse, the upper ones largest, with acuminate points.

The locality of this species is unknown: there are several specimens in the British Museum.

The scales beneath the rays are as long as they are broad.

Figures IV. and V. represent fragments of the upper and lower surface of this species.

SP. 2. OPHIURA GRANULATA.

O. corpore granulato inter radias bilobato; radiis squamis transversis latioribus ovatis; spinis simplicibus elongatis acuminatis apice obtusis.

Habitat ———

✦ Mus. Britan.

GRANULATED OPHIURE.

Body granulated, between the rays bilobate; rays with transverse broad oval scales; spines simple elongate, acuminate with obtuse points.

This species is likewise preserved in the British Museum. The scales beneath the rays are distinctly broader than long.

SP. 3. OPHIURA VULGARIS.

O. corpore areolato, interstitiis discoque spinosis; radiis squamis antice acuminatis imbricatis; spinis acuminatis rugulosis apice obtusis.

Habitat in mari Britannico vulgatissime.

COMMON OPHIURE.

Body areolated, the interstices and disc spinous; rays covered by scales with acuminate fronts; spines acuminate, rugose, with obtuse points.

Inhabits the British seas every where; colour, when alive, red, white, blue, and purple, intermixed; rays annulated.

SP. 4. OPHIURA VIOLASCENS.

O. corpore areolato, interstitiis discoque spinulosis; radiis squamis rhomboideis; spinis subacuminatis utrinque spinulis ciliatis apice obtusis.

Habitat ———

Mus. Brit.

VIOLASCENT OPHIURE.

Body areolated, the interstices and disc spinulose; rays with rhomboidal scales; spines somewhat acuminate on each side, ciliated, with spines; tips obtuse.

British Museum.

Locality unknown; colour inclining to violet.

SP. 5. OPHIURA AMMOTHEA.

TAB. LXXIX. FIG. I. II. III.

O. corpore inter radias lobato, squamis minutissime granulatis interstitiis granulatis subspinulosisque; radiis squamis transversis ovatis, suturis squamulosis, spinis acuminatis brevibus.

Habitat ———

Mus. Brit.

AMMOTHEA OPHIURE.

Body lobated between the rays, covered with minutely-granulated scales, the sutures granulated, and somewhat spinulose ; rays with transverse ovate scales, squamulose sutures, spines short and acuminate.

British Museum.

Locality unknown.

SP. 6. OPHIURA FLEMINGII.

O. corpore inter radias lobato, squamis granulosis interstiis granulatis; radiis squamis transversis ovatis suturis squamulosis, spinis brevioribus conicis.

Habitat in Mari Scotico.

FLEMING'S OPHIURE.

Body lobated between the rays, covered with granulated scales, the interstices granulated ; rays with transverse ovate scales, the sutures squamulose, the spines shorter, conic.

This *ophiure* is very common in the Scottish sea : it was first noticed by the Rev. Dr. Fleming in Zetland, and afterwards on many parts of the Scottish coast by myself. It differs from the preceding species, in having no spines between the scales on the body, and the spines of the rays are distinctly shorter.

SP. 7. OPHIURA BRACHIATA.

O. corpore squamoso inter radias emarginato, squamis 10 subgeminatis majoribus: radiis longissimis squamis transversis, spinis brevibus.

Asterias brachiata. Montagu.

Habitat in Angliæ occidentalis Mari.

LONG-RAYED OPHIURE.

Body squamous, emarginate between the rays, with ten scales larger than the others, and nearly geminated; rays very long, with transverse scales and short spines.

This species was first noticed by Montagu, and was described by him in the Transactions of the Linnean Society. It is very common on the western coasts of England, in deep water.

SP. 8. OPHIURA ELEGANS.

Corpore squamoso inter radias tenue subemarginato squamis 10 geminatis majoribus; radiis longis squamis subtransversis, spinis brevibus.

Habitat in Angliæ occidentalis mari rarius.

Mus. nost.

ELEGANT OPHIURE.

Body squamous, very slightly emarginate between the rays, with ten geminated scales larger than the others; rays long, with somewhat transverse scales and short spines.

I have occasionally found this species on the rocks on the southern coast of Devonshire. It is to be distinguished from *O. BRACHIATA* by other characters than those given

in the **specific** character. The scales of the body are nearly of one size, and the margin has a distinct row of scales running round it. When alive, the colour is greyish, the arms being annulated with white.

SP. 9. OPHIURA ARENOSA.

O. corpore squamoso squamis 15 majoribus per tria disposita ; radiis acuminatis subcarinatis ; squamis transversis, spinis brevibus acuminatis.

Asterias lacertosa. Pennant.

Habitat in Mari Europæo inter arenam vulgatissime.

SAND OPHIURE.

Body squamous, with fifteen scales larger than the rest, disposed in groups of three ; rays acuminate, slightly carinated with transverse scales, and short acuminate spines.

This Ophiure is common on the sandy coasts of the European seas, and is often thrown on the shore after a heavy gale of wind.

SP. 10. OPHIURA BRACHYCANTHA.

O. corpore granulato ; radiis teretibus elongatis, squamis latis transversis, spinis brevissimis.

Habitat ———

Mus. Brit.

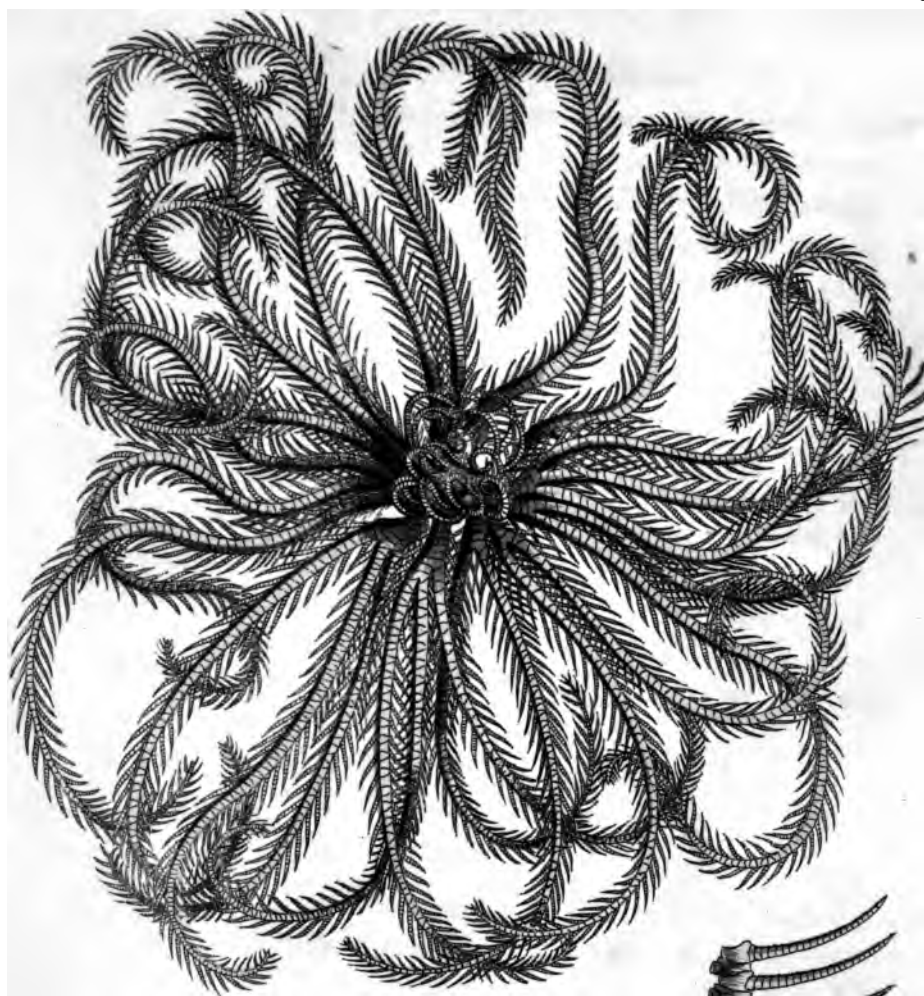
SHORT-SPINED OPHIURE.

Body granulated ; rays rounded, elongate, scales broad, transverse, with very short spines.

Inhabits ———

Two specimens of this curious *Ophiure* are preserved in the British Museum. Locality unknown.

**** The description of Tab. LXXX. shall be given in our next Number.*



Hydroides Del. Serp.

ALECTO.

ASTERIAS, Lincke, Pennant, Gmelin.

CHARACTER GENERICUS.

Corpus depressum, irregulare, minutum, *radiis* plurimis dichotomis aut trichotomis squamosis, lateribus utrinque ciliatis, *ciliis* setaceis multiarticulatis, simplici serie dispositis; *dorso* tentaculis articulatis ungue acuto terminatis marginato.

Os inferius, irregulare.

ALECTO.

Body irregular, depressed, minute, with many dichotomous or trichotomous scaly rays, ciliated on either side, with setaceous, many-jointed ciliæ, disposed in a simple series; upper part margined with articulated feelers, which are terminated by an acute claw.

Mouth irregular, and placed beneath.

SP. 1. ALECTO HORRIDA.

TAB. LXXX.

A. radiis inermibus *ciliis* teretibus; *dorsi* tentaculis glabris articulis mediocribus interne spinoso-productis.

Habitat ———

Mus. Britan.

HORRID ALECTO.

Rays simple; tentacles of the back smooth, with the joints moderately long, and produced internally.

Locality unknown.

British Museum.

SP. 2. ALECTO EUROPÆA.

A. radiis inermibus ciliis teretibus; dorsi tentaculis tenuissimè rugulosis articulis elongatis medio coarctatis, ultimò internè productò.

Asterias Decacnemos. Penn. Brit. Zool. iv. 66. Pl. xxxiii.?

Habitat in oceano Europæo.

EUROPEAN ALECTO.

Rays simple; tentacles of the back very slightly roughish, the joints elongate, contracted at their middle part, the last internally produced.

This species is found in the European ocean, and is not uncommonly dredged up on the south coast of Devonshire. If it be the same with *A. decacnemos* of Pennant, of which there is little doubt, it likewise inhabits the western coast of Scotland.

SP. 3. ALECTO CARINATA.

A. radiis supra spinoso-carinatis ciliis compressis; dorsi
tentaculis tenuissimé rugulosis articulís mediocribus, in-
ermibus.

Habitat ———

Mus. Britan.

CARINATED ALECTO.

Rays above, with a carina of spines, the ciliæ compressed;
tentacles of the back very slightly rugulose, the joints
simple, and of moderate length.

Locality not known.

British Museum.

RHAMPHASTOS.

RHAMPHASTOS, auctorum.

Rostrum maximum, inane, convexum, extrorsum serratum, apice incurvatum ; *nares* pone basin sitæ.

Pedes simplices digitis duobus posticis, duobus anticis, exterioribus longioribus ; *ungues* breves, curvati, compressi.

TOUCAN.

Beak very large, light, convex, serrated outwards, the tip curved ; *nostrils* situated behind the base of the beak.

Legs simple, with two toes before, and the same number behind, the external toes longest ; *claws* short, curved and compressed.

The *Toucans* are inhabitants of the warmer parts of South America. Their food consists of fruits. They nidificate in hollow trees, and the female lays two or three eggs.

The use of the beak, which is extremely light, and whilst recent compressible, is not known.

TAB. LXXXI. RHAMPHASTOS ARACARI

R. nigro-virescens, abdomine flavo, fascia abdominali uropygioque coccineis : cauda subtus virescente.

Rhamphastos Aracari. *Linn. &c.*

Habitat in America Australi.

ARACARI TOUCAN.

Black-greenish ; abdomen yellow, with a crimson band ; rump crimson ; under part of the tail greenish.

This species is about seventeen inches in length, sometimes less. The beak is black, with a whitish margin round its base ; the lower part of the upper mandible is also whitish. The head and neck of the female is said to be brownish.



Si rousseyi (young) mounted by Richard S. Day & P. Wilson, Toronto, Ontario, P. L. S. 1900.

SPATANGUS.

us, *Linn.*, *Gmel.*, *Penn.*, &c.
 NGUS, *Lamarck.*

CHARACTER GENERICUS.

crustaceum, irregulare, ovale aut cordiforme; *spinis*
 utis instructum; *poris* per paria digestis, ambulacras
 quatuor basi imperfectas efformantibus.
 Medium, inter medium et latus.
 lateralis.

SPATANGUS.

GENERIC CHARACTER.

crustaceous, irregular, oval or heart-shaped; covered
 with minute spines; with pores arranged in pairs, forming
 four ambulacra with imperfect bases.
 placed beneath, between the centre and the side.
 lateral.

possess two indigenous species of this genus, which
 are named by Pennant.

TAB. LXXXII.

SPATANGUS AUSTRALASIÆ.

S. lateribus supra spinis majoribus in foveolis receptis.

Habitat in Australasiæ Mari.

NEW-HOLLAND SPATANGUS.

Side above, with larger spines inserted in excavations.

In the annexed plate, two views of the shell of this species, deprived of its spines, are given: in one of which, the excavations for the reception of the base of the larger spines, are very evident.

The larger spines are placed, as usual, on papillæ, which rise from the hollows to receive them.



Document prepared by the U.S. Dept. of Justice, Office of the Inspector General, 6/1/2008

LISSA.

CANCER, *Herbst.*

MAJA, *Latreille, Bosc.*

CHARACTER GENERICUS.

Testa tuberosa antice rostro fisso terminata; *rostrum* laciniiis approximatis; *oculi* pedunculo subcrassiores; *orbita* infrá et posticé fissura una.

Antennæ exteriores hirtæ pilis clavatis, articulo primo secundo longiore.

Pedipalpi gemini externi caulis interni articulo secundo ad apicem internum truncato-emarginato.

Pedes decem; par anticum didactylum aliis distincte crassius; (MARIS corporis longitudine; FÆMINÆ corpore subbrevis); *paria* quatuor postica mediocria; *ungues* inermes apice nudi.

LISSA.

GENERIC CHARACTER.

Shell tuberose, terminated in front with a cloven beak; *beak* with the laciniaë meeting; *eyes* somewhat thicker than their footstalks; *orbit* with one fissure below and another behind.

External antennæ with clubbed hairs, the first joint longer than the second.

External double feet-palpes with the internal apex of the second joint of their internal footstalk truncate-emarginate.

Legs ten ; the two anterior ones distinctly thicker than the others (of the **MALE**, as long as the body ; of the **FEMALE**, shorter than the body) ; other ones alike, and of moderate length ; *claws* simple, with naked tips.

The shell is naked, the laciniae of the beak meet together, and the claws are not denticulated within. These are the most striking characters which divide this natural genus from *Pisa*.

TAB. LXXXIII. LISSA CHIRAGRA.

L. rostro obtuso angulis anticis subreflexis ; pedibus nodosis.

Cancer chiragra. *Herbst.* tab. 17, fig. 96.

Inachus chiragra. *Fab. Sup. Ent. Syst.* 357, 11.

Maja chiragra. *Bosc. Hist. Nat. des Crust.* 1, 255.

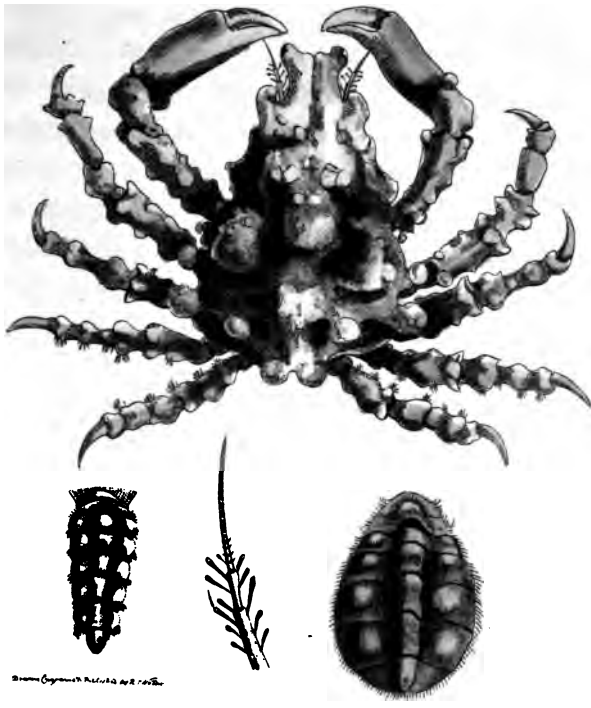
Latr. Hist. Nat. des Crust. et des Ins.
6, 97.

Habitat in Mari Mediterraneo.

GOUTY LISSA.

Beak obtuse, with the anterior exterior angles somewhat reflexed ; *legs* knotted.

Inhabits the Mediterranean sea, and is said also to have been taken on the coast of Cornwall by Mr. Swainson.



Stomatopoda, Helicoriscus, sp. n.

LIMULUS.

LIMULUS, *Miller, Fabr., Latr., Leach.*

MONOCULUS, *Linn., Gmel.*

POLYPHEMUS, *Lamarck.*

CHARACTER GENERICUS.

Corpus horizontale; clypeiforme; *testa* coriacea, duplex, antice rotundata, postice angustior; *antica* major, sublunatus, convexus, tricarinatus, *oculi* duo ovati, minimi, sessiles vix prominuli, uno utrinque ad carinæ lateralis latus inserto: *postica* subtriangularis postice truncato-marginata, lateribus utrinque dentatis spinisque mobilibus instructis. *Cauda* cornea trigona scuti postici apicis emarginati medio ginglimo articulata.

Mandibulæ duæ sub margine antico testæ anticæ insertæ, basi approximatae, biarticulatae, articulo secundo pollice mobili instructo.

Pedes decem didactyli; par quintum longius articulo penultimo ad apicem lamellis quatuor elongatis.

LIMULUS.

GENERIC CHARACTER.

Body horizontal, shield-shaped; *shell* coriaceous, double rounded in front, narrower behind; *anterior shell* largest, somewhat lunate, convex, with three carinæ; *eyes* two, ovate, very small, sessile, and scarcely prominent, one on each side, being inserted on the side of the lateral carina; *hinder shell* somewhat triangular, truncate-emarginate behind, the sides toothed, having a moveable spine between each tooth; *tail* horny, three-sided,

articulated to the hinder notched tip of the second shell by an hinge-like joint.

Mandibles two, two-jointed, inserted under the anterior margin of the shell, their bases meeting, the second joint furnished with a moveable thumb.

Legs ten, didactyle; fifth pair longest, the last joint but one with its extremity bearing four elongate lamellæ.

TAB. LXXXIV. LIMULUS SOWERBII.

L. testa antica spinis septem, 1, 3, 3; testa postica spinis quinque 3, 1, 1, spinis lateralibus elongatis simplicibus, cauda superne subspinulosa.

Habitat ———



SOWERBEAN LIMULUS.

Anterior shell with seven spines, arranged 1, 3, 3; hinder shell with five, 3, 1, 1, the lateral spines elongate and simple, tail above somewhat spinulose.

This species is extremely common, but I cannot refer it to any *Limulus* described by authors, whose descriptions of the species have been too generally drawn up to be useful. Locality not known.

Monoculus polyphemus of Linné, belongs to this genus.



NEMOPTERYX.

PANORPA, *Auctorum.*

NEMOPTERA, *Latreille.*

DIFTITA, *Hoffmansegg MSS.*

NEMOPTERYX, *Leach.*

CHARACTER GENERICUS.

Caput verticale; *clypeus* in laminam rostriformem, perpendicularem instrumenta cibaria infra excipientem productus; *palpi* 6 breves; *antennæ* setaceæ inter oculos insertæ; *ocelli* nulli.

Corpus elongatum, angustum; *thorax* bipartitus, *segmentum* *anticum* brevissimum, *secundum* majus; *alæ* reticulatæ extensæ, *antica* subovatæ, *postica* longissimæ, lineares; *pedes* breves, *tarsi* elongati, articulis 5 gracilibus, integris, *ungues* elongatis, edentulis.

NEMOPTERYX.

GENERIC CHARACTER.

Head vertical; *clypeus* produced into a rostriform, perpendicular lamina, bearing the instruments of mastication beneath; *palpi* six, short; *antennæ* setaceous, inserted between the eyes; *ocelli* none.

Body elongate, narrow; *thorax* composed of two segments, the first very short, the second longer; *wings* reticulated, extended, *anterior ones* somewhat ovate, *hinder* very long, and linear; *legs* short, *tarsi* elongate, composed of five slender, entire joints, *claws* elongate and simple.

SP. 1. NEMOPTERYX LUSITANICA.

TAB. LXXXV. FIG. SUP.

N. corpore nigro flavoque vario ; alis anticis latis, flavidis fasciis transversis undulatis punctisque fuscis ; posticis albidis basi fuscis fascisque duabus perfuscis.

Diptita Lusitana, *Hoffmanseg MSS.*

Habitat in Lusitania vulgatissime.

PORTUGUESE NEMOPTERYX.

Body black, variegated with yellow ; anterior wings broad, with transverse waving bands and spots of dark brown ; hinder wings whitish, with their base brown, and with two dark brown bands.

This species is very common in Portugal. I have received it from my learned friend Count Hoffmansegg, under the title *Diptita Lusitana*, with the assurance that it is not *Panorpa coa* of *Linne'*, which, from the figure referred to, seems to differ, in having the anterior wings slightly notched.

SP. 2. NEMOPTERYX AFRICANA.

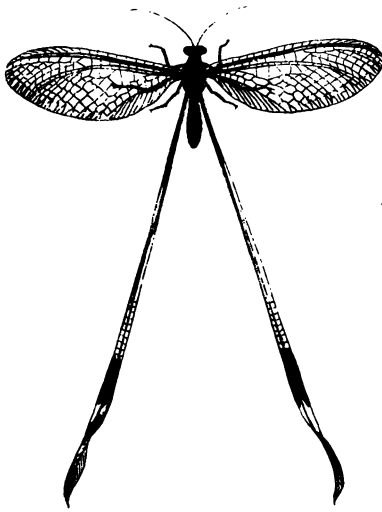
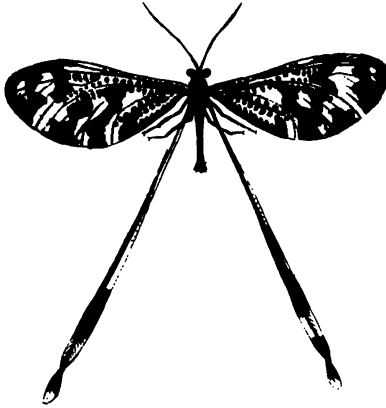
FIG. INFER.

N. corpore luteo ; alis anticis hyalinis costa lutea ; posticis luteis fascia brunnea apice albidis.

Habitat in Africa.

Mus. Macleay, nostr.

Body luteous ; anterior wings transparent, with the costal



Libellula depressa

margin luteous ; hinder wings luteous, with a brown band and whitish tips.

Dr. Afzelius found this species at Sierra Leone, and Mr. Macleay has lately received a specimen from J. C. Savigny, who probably brought it from Egypt. From the description of Fabricius, his *P. halterata* must be distinct.

CORVUS.

CORACIAS, *Lath.*

CHARACTER GENERICUS.

Rostrum convexum, robustum, dentē utrinque versus apicem; *nares* pennis setaceis recumbentibus obtectæ.

Pedes simplices digitis tribus anticis, uno postico.

CROW.

GENERIC CHARACTER.

Beak convex, strong, with a tooth on each side towards the point; *nostrils* covered with setaceous recumbent feathers.

Legs simple, with three toes before and one behind.

CORVUS STREPERA.

C. atro-nigra, macula alarum, crisso, caudae basi apice-
que albis.

Coracias strepera. *Lath. Ind. Ornith.* 1, 173, 21.

Habitat in Insula Maris Pacifici Norfolk.

NOISY CROW.

Dark sooty-black; a mark on the wings; upper and lower
tail coverts, and tip of the tail, white.

This bird is very common in Norfolk Island, and is said
to congregate in large flocks, uttering a loud jarring noise.
It has all the characters of the genuine crow, and is intro-
duced here as a good example of one of that genus.



ACIONA.

BACCINUM, *Rumphii*.

TURBO, *Linn.*, &c.

SCALARIA, *Lamarck*.

SCALARUS, *De Montford*.

CHARACTER GENERICUS.

Testa libera, univalvis, conica, spira elevata, regularis ; anfractus teretes, distincti, distantes transversim costati ; columella nulla ; os rotundatum, integrum, perfectum, marginatum.

ANIMAL incognitum.

WENDELTRAP.

GENERIC CHARACTER.

Shell free, univalve, conic, with a regular elevated spire ; whirls round, distinct, distant and transversely ribbed ; pillar none ; mouth rounded, entire, perfect, and margined.

ANIMAL unknown.

The absence of the columella or pillar, will warrant the liberty I have taken in dividing this genus from *scalaria* of Lamarck. Of the animal nothing is known ; but it is probably totally distinct from that of the genuine genus *scalaria*, which is admirably figured in Planc's work on the rarer shells of the Adriatic.

Of the genus *aciona* there are probably more than one species ; that from China being different in form and thickness from the Amboina one.

TAB. LXXXVII. SCALARIA SCALARIS.

A. testa albida costis superne subreflexis; interstitiis glabris.

Turbo scalaris. *Linn. Syst. Nat.* xii. 1237.—*Murr. Conch.* 4—

t. 152, f. 1426.

De rechte Wendeltrap. *Rumph. Amb. rarit.* tab. 49, fig. 1 —

Scalaria conica. *Lam. Syst. des Anim. sans Vert.* 88.

Scalarus scalatus. *De Mont. Conch. Syst.* 2, 295.

Habitat in Amboina.

COMMON WENDLETRAP.

Shell whitish, with the ribs slightly reflexed above; the intermediate spaces smooth.

This shell was formerly esteemed as a valuable rarity, and was to be found in but few cabinets. It is now a common shell; yet very great prices are often given for large and perfect specimens.

The Museum of Mr. Bullock contains the largest known specimen of this elegant species, which was purchased at a sale for twenty-seven pounds; but it is now estimated as worth more than double that sum.

It is commonly called the true Wendletrap, and is also known to collectors by the name of royal stair-case shell.



Hydrobia ulva

HOMOLA.

HOMOLA, Leach.

CHARACTER GENERICUS.

Testa elongato-quadrata, fronte subproducto; *oculi* magni subglobosi, pedunculo elongato, biarticulato, articulo secundo brevissimo primoque abrupte crassiore.

Antennæ externæ infra oculos insertæ, articulis duobus basilaribus valde elongatis primo crassiore: *internæ* intra orbitas insertæ et in oculorum cantho interno reponendæ.

Pedipalpi gemini externi caule interno articulis duobus angustis, elongatis, articulo secundo ad apicem palpigeri; *palpi* triarticulati hirsuti, articulo primo brevior.

Pedès decem: par anticum majus didactylum: paria 2, 3 et 4 consimilia, *unguibus* compressis, acutis internè spinosis instructa; par quintum dorsale, monodactylum, ungue tarsoque interne spinulosis.

Abdomen 7-articulatum.

HOMOLA.

GENERIC CHARACTER.

Shell elongate-quadrate, a little produced in front: *eyes* large, somewhat globose, their footstalk lengthened, and composed of two parts, the second joint very short, and abruptly thicker than the first.

External antennæ inserted beneath the eyes, the two first joints long, the first thickest: *internal antennæ* inserted within the orbit of the eye, and capable of being lodged in the internal corner.

External double feet-palpes with their internal footstalk

composed of two lengthened and narrow joints; *palpi* three-jointed, the first joint shortest.

Legs ten; first pair largest and didactyle, the three following pair simple, alike in form, and having their *claws* spiny within; fifth pair monodactyle; the claw and tibia being spiny within.

Abdomen composed of seven joints.

The two first joints only of the external antennæ of this curious genus remain, we therefore are ignorant as to the form of those essential parts.

TAB. LXXXVIII. HOMOLA SPINIFRONS.

H. testâ antice spinosâ, lateribus antice spinulosis; femoribus posticis interne trispinosis.

Homola spinifrons. Leach, Trans. Linn. Soc. xi. 324.

Habitat ———

Mus. Britan.

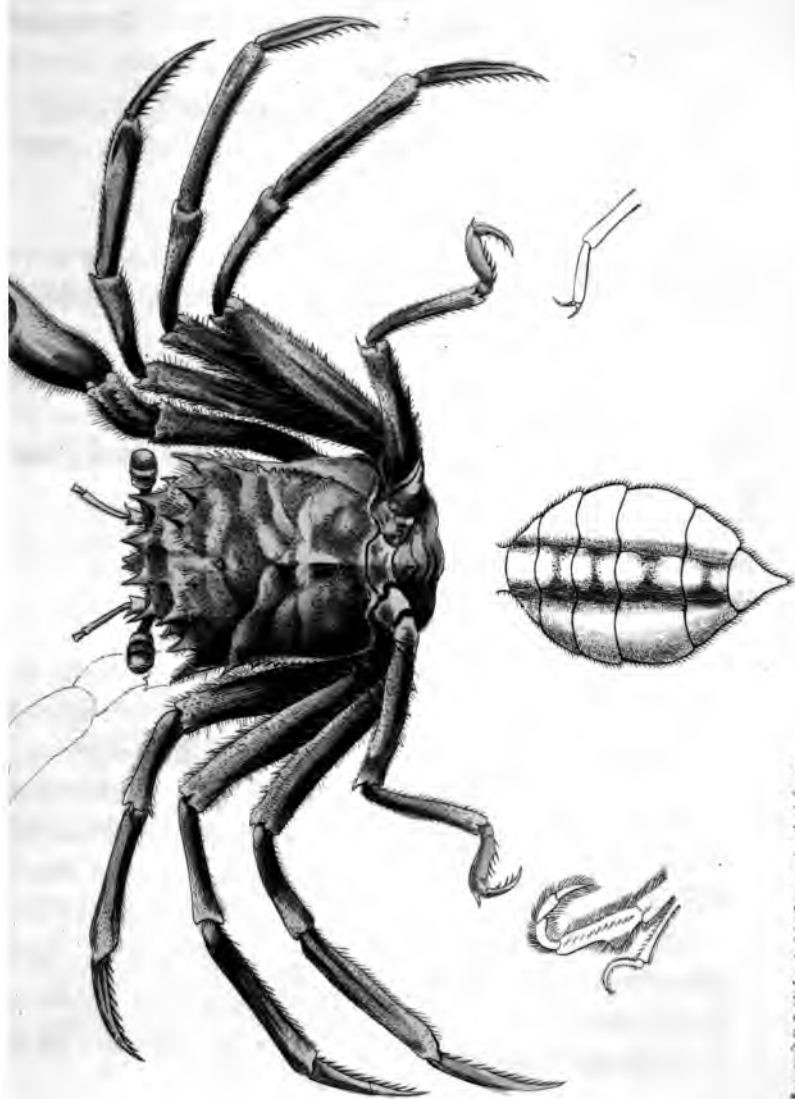
SPINY-FRONTED HOMOLA.

Shell anteriorly spinose; sides anteriorly beset with small spines; hinder thighs internally with three spines.

The only known specimen of *H. spinifrons*, (serving as the type of the genus), is preserved in the British Museum, but we are ignorant of its locality.

In the annexed plate the animal is represented of its natural size, together with one of the foot-palpes, one of the internal antennæ, and the abdomen of the female.

One of the anterior legs being lost, its supposed form is represented by a dotted line.



Stomatopoda 2. *Stomatopoda* 2. *Stomatopoda* 2. *Stomatopoda* 2. *Stomatopoda* 2.

MACROPUS.

CERAMBYX, Linn., Gmel., Fabr., &c.

PRIONUS, Olivier.

MACROPUS, Thunberg, Leach.

LAMIA, Latreille.

CHARACTER GENERICUS.

Corpus valde depressum ; *thorax* utrinque tuberculo maximo spina terminato, mobili instructus ; *pedes antici* (maris præsertim) longissimi.

Caput verticale ; *palpi* subfiliformes articulo ultimo ovali ; *labrum* magnum ; *antennæ* longissimæ, setaceæ, 10-articulatæ, in oculorum sinu interno insertæ.

MACROPUS.

GENERIC CHARACTER.

Body much depressed ; *thorax* furnished on each side with a large moveable tubercle terminated by a spine ; *anterior legs* (especially of the male) very long.

Head vertical ; *palpi* somewhat filiform, the last joint oval ; *labrum* large ; *antennæ* very long, setaceous, and composed of ten joints, inserted in a notch on the interior side of the eye.

The essential character of this genus, is, the moveable tubercle on each side of the thorax : this distinguishes it from all other genera of the tribe to which it belongs.

TAB. LXXXIX. MACROPUS PICTUS.

M. niger; capite thorace elytrisque rubro flavideque pictis;
femoribus fascia rubra.

Cerambyx longimanus. *Linn. Syst. Nat.* 2, 621.

Fabr. Syst. Eleut. 2, 266.

Prionus longimanus. *Oliv. Ins.* 60, tab. 3, f. 12.

Lamia longimana. *Latr. Gen. Crust. et Ins.* 3, 36.

Habitat in America Australi.

PAINTED MACROPUS.

Black; head, thorax, and elytra painted with red, and yellowish; thighs with a red band.

The painted Macropus is tolerably common in South America. The male is represented in the plate, with one of the fore-legs of the female, for the purpose of pointing out the disproportion which this part exhibits.



Dromus longicornis (Fabricius) sp. n. (Cerambycidae, Hymenoptera)



Fig. 1. Stag beetle.

NECROPHORUS.

SILPHA, *Linnaei*, &c.

NECROPHORUS, *Fabr., Latr., &c.*

CHARACTER GENERICUS.

Corpus oblongum subparallelipedum; subdepressum; (*pedes* *antici* *MARIS* *tarsis* dilatatis); *elytra* truncata, *margin*e exteriori haud canaliculato.

Caput nutans; *antennæ* capite longiores, *clava* valdè perforata, abrupta terminatæ; *palpi* porrecti.

GRAVEDIGGER.

GENERIC CHARACTER.

Body oblong, somewhat paralleliped, and depressed; *anterior pair of legs* (of the **MALE**) with dilated tarsi; *elytra* truncated, the exterior margin not channelled.

Head nutant; *antennæ* longer than the head, terminated by an abrupt and very perfoliated club; *palpi* porrected.

Of this genus about eighteen species only have hitherto been discovered. They are found in dead animals and in putrid fungi. Many of them often combine their efforts for the purpose of burying the dead bodies of small animals, which they effect by removing the earth from beneath: in these carcasses the female afterwards deposits her eggs.

TAB. XC. FIG. I.

NECROPHORUS AMERICANUS.

N. niger; *thorace* depresso inæquali disco ferrugineo; *fronte* macula cordiformi *elytris*que maculis duabus ferrugineis; *trochanteribus* acutis.

Necrophorus Americanus. *Oliv. Enc. Méthod.* 8, 154.

— *Hist. des Insect.* 2, t. 1, f. 3.

Necrophorus grandis. *Fabr. Syst. Eleut.* 4, 334.

Habitat in America boreali.

AMERICAN GRAVEDIGGER.

Black; thorax depressed, unequal, with a rust-coloured disc; front with a cordiform spot, and the elytra with two ferruginous-red spots; trochanters sharp.

Inhabits Northern America. It is distinguished from other species by the colour of its thorax.

TAB. XC. FIG. II.

NECROPHORUS MEDIANUS.

N. ater; thorace convexo, glabro; elytris maculis tribus ferrugineis trochanteribus acutis.

Necrophorus medianus. *Fabr. Syst. Eleut.* 1, 334.

Oliv. Enc. Méthod. 8, 155.

Habitat in America boreali.

CONVEX-THORAX NECROPHORUS.

Black; thorax convex, smooth; elytra with three ferruginous spots; trochanters sharp.

The convexity of the thorax characterises this species. It is found in North America with the preceding insect.

NECRODES.

SILPHA, *anctorum*.

NECRODES, *Leach*.

CHARACTER GENERICUS.

Corpus oblongo-ovale; depressum; *thorax* orbicularis; (*pedes* quatuor anteriores **MARIS** tarsis dilatatis); *elytra* truncata margine exteriore canaliculato.

Caput nutans; *antennæ* thoracis longitudine elongato-clavatae, *clava* gradatim efformata; *palpi* porrecti articulo ultimo parvo.

NECRODES.

GENERIC CHARACTER.

Body oblong-oval, depressed; *thorax* orbicular; (four anterior feet of the **MALE** dilated); *elytra* truncate, the exterior margin channelled.

Head nutant; *antennæ* as long as the thorax, with a long and gradually-formed club; *palpi* porrect, their last joint small.

The truncate elytra and the form of the thorax, at once distinguish this genus from *Silpha*, with which it had been arranged by all writers, until I separated it under the above title*, and defined its characters in the Edinburgh Encyclopedia.

* Messrs. Kirby, Spence, Wilkin, and myself, separated this genus from *Silpha* at the same time.

NECRODES LITTORALIS.

N. nigra ; elytris lineis tribus elevatis, duabus externis tuberculo connexis : antennis articulis tribus ultimis ferrugineis.

Silpha littoralis ouctorum.

Habitat in Europa, cadaveribus.

SHORE NECRODES.

Black ; elytra with three elevated lines, the two outer ones connected by a tubercle ; three last joints of the antennæ ferruginous.

Inhabits Europe, and is common in many parts of Great Britain, frequenting carcasses of animals.

The male of this insect is subject to considerable varieties in size, in the form of the posterior tibiæ, and in the structure of the posterior thighs ; so much so indeed, as to lead Mr. Curtis and myself to consider them as distinct species.

The hinder thighs of the male are always somewhat thicker than those of the female. In large specimens, however, these parts are very much incrassated and denticulated beneath. In this variety the hinder tibiæ are very much bent ; whereas in the smaller varieties, the hinder tibiæ are nearly strait, and the thighs are quite simple. As every possible gradation between these two varieties exists, and as they are always found together, no doubt can be entertained as to their being the same species.

ECHIDNA.

ECHIDNA, *Duméril*.

ORNITHORHYNCHUS, *Home*.

MYRMECOPHAGA, *Shaw*.

CHARACTER GENERICUS.

Corpus spinis, pilisque tectum, antice rostro subdepresso angusto terminatum ; *pedes* quatuor ; *antici* digitis quinque ; *postici* quatuor *calceque* instructi.

Os molaribus simplicibus instructum.

Obs. *Mammæ* nullæ. *Labia* carnosæ nullæ. *Palatum* corneum. *Meatus auditorius* externus nullus.

ECHIDNA.

GENERIC CHARACTER.

Body covered with spines and hair, anteriorly terminated by a narrow subdepressed beak ; *legs* four ; *anterior* with five, *posterior* with four toes and a heel.

Mouth furnished with simple grinding teeth.

Obs. No *mammæ*. No fleshy lip. Palate horny. No external ear.

The male of this genus, like the *Ornithorhynchus*, has a spur on each of its hinder legs, close to the heel.

The situation of the genera *Ornithorhynchus* and *Echidna* in the system of nature, has perplexed naturalists, the greater portion of whom refer them to the class *Mammalia*. Sir Everard Home is the only author who has decidedly given it as his opinion, that they should constitute a

distinct class, whose situation should be between the mammalia and birds; and in this opinion I most thoroughly concur. It agrees with the mammalia and birds in having warm blood; it differs from the former class in having no nipples, and from the latter in wanting wings. I do not enumerate the other essential characters of distinction, as those mentioned are the most evident. The class might with propriety be named *Monotremata*, a term applied to them, as an order of mammalia, by two zoologists.

TAB. XC. ECHIDNA HISTRIX.

E. nigra, spinis elongatis albido aut cinereo annulatis.

Myrmecophaga aculeata. Shaw, *Gen. Zool.* 1, 175, Pl. 54

Ornithorhynchus Hystrix. Home, *Philos. Trans. an.* 1802
p. 348.

Habitat in Australasia.

PORCUPINE ECHIDNA.

Black, the spines elongate, annulated, with white or cinereous.

Inhabits New Holland.

Sir Everard Home has given an account of the general anatomical structure of this animal, in the *Philosophical Transactions* for 1802.



Talpa europaea L.

PALÆMON.

PALÆMON, *Fabr., Bosc., Latr., Leach.*

ASTACUS, *Pennant.*

CANCER, *Linné, Gmelin.*

CHARACTER GENERICUS.

Antennæ interiores pedunculo mediocri, setis tribus articu-
latis terminatæ; *exteriore*s infra interiores insertæ squa-
mâ magnâ ad basin, ad apicem unidentatâ, pedunculo
adnexâ.

Abdomen articulô secundô anticé et posticé productô; *cauda*
lamellis duabus foliaceis utrinque instructa, cum inter-
media pinnam flabelliformem, natatoriam efformantibus.

Pedes decem; *paria duo antica* didactyla, pari antico mi-
nore; *paria tria postica* simplicia, *unguibus* simplicibus
instructa.

Pedipalpi gemini externi caulis interni articulo ultimo acu-
minato, penultimo brevior.

PRAWN.

GENERIC CHARACTER.

Interior antennæ with a moderate peduncle, terminated by
three setæ; *exterior antennæ* inserted below the internal
ones, with a large scale at their base, attached to the
peduncle, with the point unidentate.

Abdomen with the second joint anteriorly and posteriorly
produced; *tail* with two foliaceous lamellæ on each side,
forming with the middle one a fan-shaped swimming fin.

Legs ten; *two anterior pair* didactyle; the anterior pair

smallest ; *three hinder pair* simple, furnished with simple claws.

External double palpi with the last joint of the internal footstalk acuminated, and shorter than the joint preceding it.

TAB. XCII. PALÆMON CARCINUS.

P. rostro serrato decendente apice recurvo ; pedibus pari secundo spinuloso digitis interne unispinosis.

Astacus fluviatilis major, chelis aculeatis. Sloan. Jam. 2, 271, t. 245, f. 2.

Cancer carcinus. Linn. Syst. Nat. 1, 1051, 64.

Cancer (astacus) Jamaicensis. Herbst. 2, 57, tab. xxvii. f. 2.

Palæmon carcinus. Fabr. Supl. Ent. Syst. 402, 1.

Latr. Hist. Nat. des Crust. et des Insectes
sect. 6, 260, 10.

Habitat in insulæ Jamaicæ fluviis.

JAMAICA PRAWN.

Rostrum descending serrated, the apex recurved : second pair of legs spinulose, the fingers internally, with one spine.

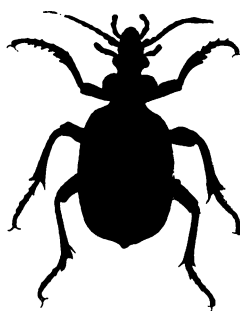
Palæmon carcinus inhabits the rivers of Jamaica, and is said by Sloane to grow to double the size of that figured in the annexed plate.

Linné says, that Gronovius has considered it as a variety of his *Cancer Squilla* ; but it is not even mentioned by that author : he also refers to a figure in Rumph's *Amboina*, which evidently is intended to represent another animal.

Herbst also refers this species to Gronovius, (*Zooph.* 987).



Decapoda, Crustacea, 1871, p. 101, fig. 1.



Scarabaeus sacer L., 1758, p. 160.

CALOSOMA.

CALOSOMA, *Fabr., Latr., Bonelli.*

CARABUS, *Linn., Gmel., &c.*

CHARACTER GENERICUS.

Mandibulæ magnæ subporrectæ; *palpi* mediocres articulis æqualibus.

Maxillæ apice incrassatæ; *antennæ* setaceæ, rectæ.

Abdomen subquadratum; *ulæ* duæ; *elytra* integerrima abdomen totum tegentiâ.

Tibiæ anticæ latere interiore integro.

CALOSOMA.

GENERIC CHARACTER.

Mandibles large, subporrect; *palpi* moderate, the joints equal; *maxillæ* incrassated at their points; *antennæ* setaceous, strait.

Abdomen subquadrate; *wings* two; *elytra* entire, covering the whole abdomen.

Anterior tibiæ with the interior edge entire.

We have two indigenous species of this genus, *Calosoma*, *Sycophanta*, and *Inquisitor*.

All the species have a metallic lustre; whence their name, signifying a beautiful body, is derived.

TAB. XCIH. CALOSOMA SCRUTATOR.

C. violaceum; abdomine cupreo viridique vario; thorace viridi-aureo marginato; elytris subaureo-viridibus cupreo marginatis; singulo striis punctatis intervallis transversim intersectis, quarto, octavo, duodecimoque a sutura punctis paucis impressis.

Calosoma scrutator. Fabr. Syst. Eleut. 1, 213.

Habitat in America.

SEARCHER CALOSOMA.

Violet ; abdomen variegated with copper and green ; thorax with a green-gold margin ; elytra green tinged with gold, each with punctured striæ ; the intervals transversely intersected, the fourth, eighth, and twelfth from the suture, with some impressed dots.

This species inhabits America, and in the annexed plate is represented in the flying and walking position.

CALOSOMA SYCOPHANTA.

C. violaceo-nigrum ; elytris aureo cupreore viridibus ; singulo striis punctatis ; intervallis transversim obsolete intersectis, quarto, octavo, duodecimo, a sutura, punctis paucis impressis.

Calosoma sycophanta. *Latr. Gen. Crust. et Insect.* 1, 213.

Fabr. Syst. Eleut. 1, 212.

Carabus sycophanta. *Linn. Syst. Nat.* 1, 670.

Habitat in Europæ Sylvis.

SYCOPHANT CALOSOMA.

Violet-black ; elytra copper or golden-green ; each with punctured striæ ; the intervals obsoletely intersected transversely, the fourth, eighth, and twelfth from the suture, with a few impressed dots.

Inhabits Europe. In Britain it is rare, having been taken two or three times near Norwich, twice in Ireland, and once near Dartmouth, in Devonshire. It has probably also been taken near London, in Coomb-wood ; but this has not been clearly ascertained to have been the case.

It differs from *C. Scrutator* in colour, in being more convex, and in having a longer thorax.

PETALURA.

CHARACTER GENERICUS.

Caput subhæmisphæricum, supra clypeum valde vesiculosum; *vertice ocellis* tribus triangulum delinientibus; *oculi* magni, laterales haud contigui; *labium inferius* trifidum, lamellâ intermediâ minore, lamellis lateralibus ad apicem internum emarginatis, lamellâ parvâ apice unispinosâ terminatis.

Alæ horizontaliter, extensæ, stigmate valde elongato, **MARIS** ad angulum analem abruptè subaduncæ.

Abdomen elongato-cylindricum, articulo primo, **MARIS** utrinque obtusa unidentato; *cauda* lamellâ unâ latissimâ utrinque instructa, squamâ inferne interjectâ.

PETALURE.

GENERIC CHARACTER.

Head subhemispheric, very vesiculose above the clypeus; *vertex* with three *ocelli* disposed in a triangle; *eyes* large, lateral, not contiguous; *under lip trifid*, the intermediate lamella smaller, the lateral ones notched at their internal points, terminated with a little lamella, armed at its point with a spine.

Wings extended horizontally, the stigma very much elongated; those of the **MALE** abruptly hooked at their anal angle.

Abdomen elongate-cylindric, the first joint of the male on each side armed with an obtuse tooth; *tail* furnished with two very broad lamellæ, a scale being interposed beneath.

This singular genus may at once be distinguished from *Æshna* of Fabricius and Latreille, by the form of the stigma, the distance of the eyes, the triangular disposition of the ocelli, and by the lamellæ which terminate the abdomen. From all other genera of its family, it may be distinguished by the combination of characters above given.

TAB. XCV. PETALURA GIGANTEA.

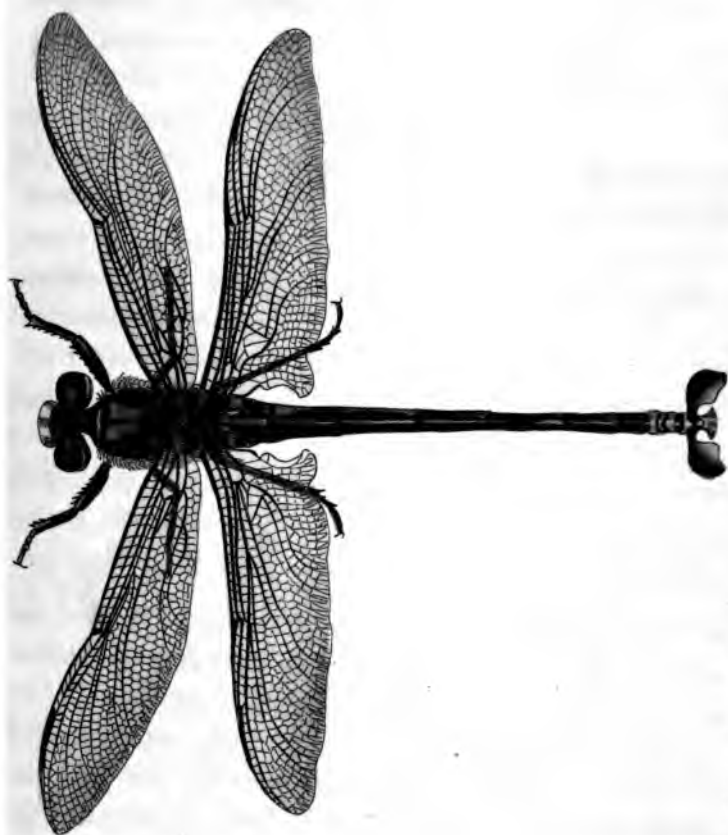
P. alis hyalinis immaculatis, stigmatibus pterigostis que atria, margine antico antice albido.

Habitat in Australasia.

GIGANTIC PETALURE.

Wings hyaline, without spots; the stigma and wing-bone black, the anterior margin anteriorly whitish.

I am indebted to my friend W. J. Hooker, Esq. for specimens of this interesting species, which was received from New Holland, together with a vast number of curious neuropterous insects, now preserved in the British Museum.



Stenonerginae in *Stenonerginae* of *Stenonerginae*

PANORPA.

PANORPA, *auctorum*.

CHARACTER GENERICUS.

Caput verticale; *clypeus* in laminam rostriformem, perpendiculararem, instrumenta cibaria infra excipientem productus; *palpi* subæquales, filiformes; *antennæ* setaceæ inter oculos insertæ; *ocelli* tres frontales, in triangulum dispositi, duobus posticis majoribus.

Corpus elongatum, angustum; *thorax* bipartitus, *segmentum anticum* brevissimum, *secundum* majus; *alæ* reticulatæ æquales, horizontales, superpositæ, ovato-ellipticæ; *pedes* subelongati; *tibiæ* calceratæ; *tarsi* unguibus duobus arcuatis subtus denticulatis pulvilloque spongioso intermedio instructi.

Abdomen maris ad apicem forcipatum.

PANORPA.

GENERIC CHARACTER.

Head vertical; *clypeus* produced into a perpendicular, rostriform lamina, receiving the parts of the mouth beneath; *palpi* subequal, filiform; *antennæ* setaceous, inserted between the eyes; *ocelli* three, disposed in a triangle on the front, the two hinder ones largest.

Body elongate, narrow; *thorax* bipartite, *anterior segment* very short, the second larger; *wings* reticulated, equal, horizontal, ovate elliptic, one placed over the other; *legs* elongate; *tibiæ* furnished with spurs; *tarsi* with two

arcuate *claws* denticulated within, having a spongy pulvillus between them.

Abdomen of the male armed with forceps.

Of the economy of this genus nothing certain is known ; and its metamorphosis remains in total obscurity.

TAB. XCV.

FIG. I. PANORPA COMMUNIS.

P. nigra ; alis hyalinis, pterigostiis, fascia apiceque fuscis ; costa obscuré testacea : thorace maculis pedibusque testaceis.

Panorpa communis, *auctorum*.

Habitat in Europæ sylvis.

COMMON PANORPA.

Black ; wings hyaline, with wing-bones, spots, a band and tips fuscous ; anterior margin obscurely testaceous ; legs, and spots on the thorax, testaceous.

Inhabits the European woods.

FIG. II. PANORPA AFFINIS.

P. nigra ; alis hyalinis pterigostiis, maculis, apiceque fuscis ; costa obscuré testacea ; thorace maculis pedibusque testaceis.

Habitat cum præcedente.



D. rufum (Linn.) 24. Published by J. P. A. 1852

ALLIED PANORPA.

Black ; wings hyaline, with wing-bones, spots and tips fuscous; costa obscurely testaceous; legs, and spots on the thorax, testaceous.

This species is found in similar situations with the above species, but the want of the band will always distinguish them ; and as I have never seen any intermediate varieties, I hold myself warranted in considering them as distinct.

FIG. III. PANORPA SCORPIO.

P. nigra ; alis perfuscis medio maculis albis ; abdomine rubro.

Panorpa Scorpio, *auctorum*.

Habitat in Americæ sylvis.

AMERICAN PANORPA.

Black ; wings perfuscous in the middle, with white spots ; abdomen red.

Inhabits the woods of America.

Fig. 4, represents the forceps that terminates the abdomen of the male.

PHASCOLOMIS.

CHARACTER GENERICUS.

Dentes incisores $\frac{2}{2}$, simplices; *molares* $\frac{10}{10}$, anterioribus simplicibus, posticis duplicibus.

Pedes pentadactyli; posticorum pollice inermi.

Corpus pilosum.

PHASCOLOMIS.

GENERIC CHARACTER.

Jaws with two simple *incisive*, and ten *grinding teeth*; the anterior grinders simple, all the hinder ones double.

Legs with five fingers; thumbs of the hinder ones without claws.

Body hairy.

All the *Phascolomes* are natives of New Holland, and, like several of the other animals of that country, have a pouch for their mammae.

TAB. XCVI. PHASCOLOMIS VOMBATUS.

P. pallidé fulvescente-brunneus; naso obscuriore; unguibus elongatis.

Wombach. *Bewick, Gen. Hist. of Quadrup. ed. 4, p. 522.*

Habitat in Australasia.

WOMBAT PHASCOLOMIS.

Pale fulvescent-brown; nose darker; claws elongated.

Inhabits New Holland.

For an account of the anatomical structure of the *Wombat Phascolomis*, see Philosophical Transactions for 1808.

It is named *Wombat*, or *Wombach*, by the natives of New South Wales, who kill it for food; its flesh being considered very delicate.

The usual length of this animal is about two feet, exclusive of the tail.



POGONIUS.

Character genericus, pag. 45.

In describing the species of this genus in page 47 of this Volume, I remarked, that other species without a sulcated beak might be found; nor have I conjectured falsely. This shews the necessity of being extremely cautious in making use of comparative characters alone, which has often prevented the discovery of new species.

TAB. XCVII. POGONIUS VIEILLOTI.

P. brunneus; subtus albidus; capite collo gula maculisque pectoralibus coccineis; remigibus interioribus externe pallido marginatis.

Habitat in Africa.

VIEILLOT'S POGONIUS.

Brown; whitish beneath; head, neck, throat, and spots on the breast, scarlet; interior wing-quills externally margined with pale.

Inhabits Africa.

This new bird has very recently been added to the collection in the British Museum. It appears to be a young bird in the state of changing its plumage; having however characters sufficient to establish it as a distinct species from *Pogonias lavirostris*. In the more advanced state, the breast is probably entirely scarlet.



Phaethon rubricauda (Linn.)

PARTHENOPE.

CANCER, *Linn., &c.*

PARTHENOPE, *Fabricii, Leach.*

MAJA, *Latreille.*

CHARACTER GENERICUS.

Testa subtriangulata, tuberosa antice acuminata; *rostrum* breve, integrum, obtusum; *oculi* magni pedunculis brevissimis haud crassiores.

Antennae exteriores brevissimae tripartitae, segmentis duobus primis crassioribus; primo majore; tertio ex articulis aliis effecto.

Pedipalpi gemini externi cauli interno biarticulato, articulo secundo ad apicem internum truncato-emarginato palpi-gero.

Pedes decem; par anticum crassissimum didactylum, inaequale, digitis deflexis; paria alia simplicia, consimilia; *ungues* compressi, lateribus exaratis, apicibus nudis.

Abdomen 7-articulatum; *MARIS* articulo tertio aliis latiore, ultimo elongato-triangulari apice rotundato.

PARTHENOPE.

GENERIC CHARACTER.

Shell subtriangulate, tuberose, anteriorly acuminated; *rostrum* short, entire, obtuse; *eyes* large, not thicker than their peduncles, which are extremely short.

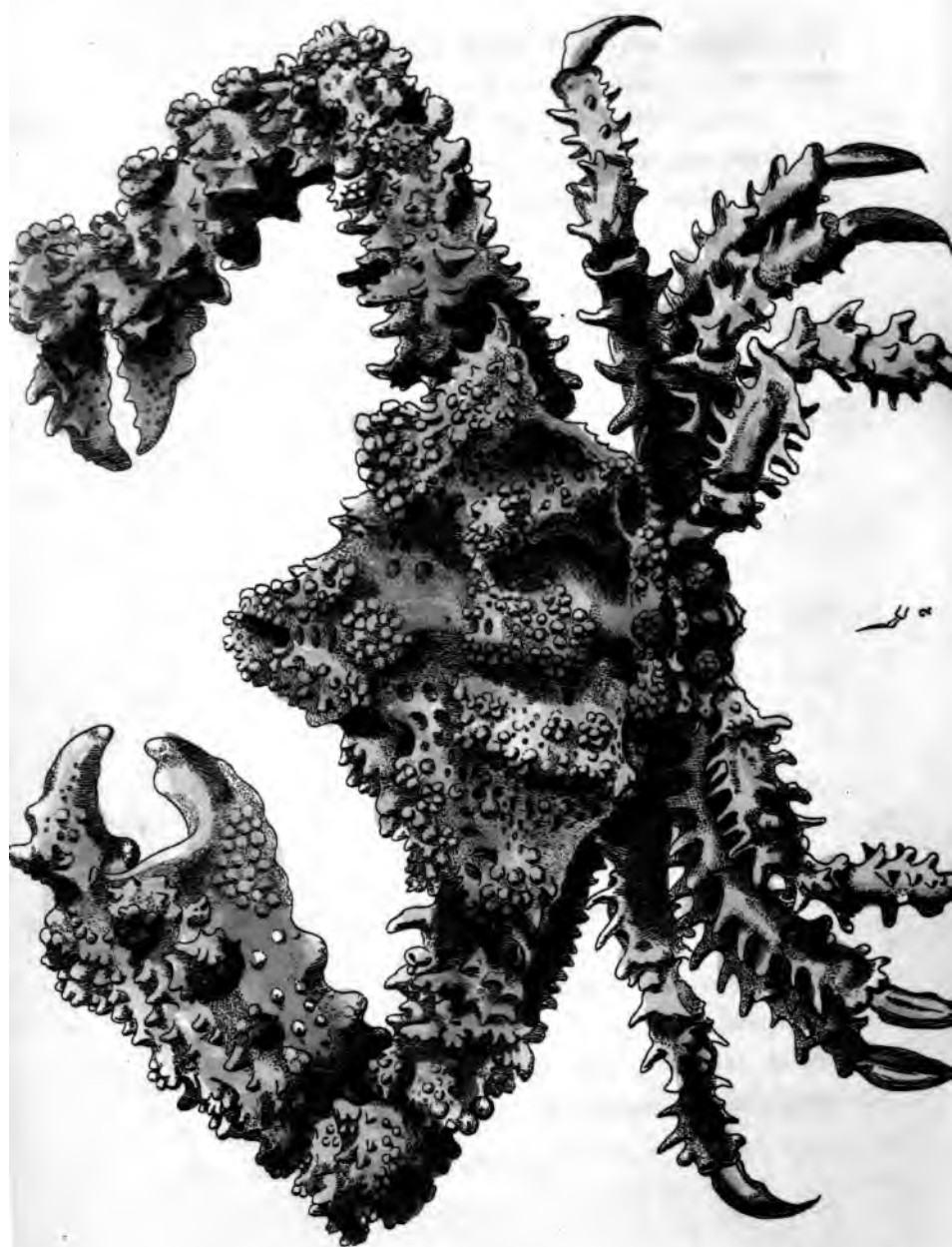
Exterior antennae very short, tripartite, the two first segments thickest, the first largest; the third segment composed of several small joints.

External double palpi with the second joint of their internal footstalk, at its internal apex, truncate-emarginate, palpigerous.

Legs ten; anterior pair very thick, didactyle, unequal, with deflexed fingers; other pairs simple, alike; *claws* compressed, their sides grooved, the extremities naked.

Abdomen seven-jointed; of the **MALE**, with the third joint broadest; the last elongate-triangular, with its apex rounded.

Parthenope is more nearly allied to *Eurynome* than to any other genus, (see *Malacostraca Podophthalma Britannia*, Tab. XVII.); but it is at once to be distinguished, by its very short antennæ, entire rostrum, and unequal hands.



TAB. XCVIII. PARTHENOPE HORRIDA.

P. testa tuberculis eroso-impressis; pedibus spinosis; manibus carpisque verrucatis; abdomine pectoreque cariosis.

Rump. Rarit. Amb. tab. 9, fig. 1.

Petiv. Amb. tab. 1, fig. 7.

Cancer longimanus spinosus. Seb. Mus. 3, 48, tab. xix. fig. 16—17.

Cancer horridus. Linn. Syst. Nat. 1, 1047.

Parthenope horrida. Fabr. Suppl. Ent. Syst. 353.

Maja horrida. Latr. Gen. Crust. et Insect. 1, 37.

Parthenope horrida. Leach, Edinb. Encycl. vii. 431.

Habitat in Oceano Asiatico.

HORRID PARTHENOPE.

Shell with the tubercles eaten-impressed; legs spiny; hands and wrists verrucated; abdomen and breast carious.

Inhabits the Asiatic ocean.

Linné describes this species as having but eight legs, but he has correctly referred to Rumph and Petiver, for the figures quoted above; he also quotes figures of *Lithodes maja*, given in vol. iii. tab. 18, fig. 10, and in tab. 22, fig. 1, of Seba's *Thesaurus*; and likewise to tab. 22, fig. 2—3, of the same volume, which represent two views of a species with which I am unacquainted, but which is totally distinct from *P. horrida*.

The first two false references given by Linné, in some measure excuse Pennant for having given *Lithodes maja* (*Cancer maja*, Linn.) for the *Cancer Horridus* of Linné, although he might readily have discovered his error, had he examined the Linnean description, "*Thorace obtusé aculeato; cauda cariosa.*"

PLEUROTOMA.

MUREX, *Linneé*.

CHARACTER GENERICUS.

Testa fusiformis; *os* inferné canali elongata terminatum; *labium exterius* tenue, fissurâ profundâ emarginatum.

ANIMAL tentaculis duobus acuminatis, ad basin externâ oculigeris; *operculum* corneum; *pes* elongatus.

PLEUROTOMA.

Shell fusiform; *mouth* terminated below by an elongate canal; *external lip* thin, with a deeply-cut fissure.

ANIMAL with two acuminate tentacula, bearing the eyes at their base externally; *operculum* corneous; *foot* elongate.

The *Pleurotomata* are marine, and there are many species, some of which occur in a fossil state.

TAB. XCIX. PLEUROTOMA BABYLONICA.

P. anfractibus medio carinatis et utrinque marginatis; cingulis e maculis nigris effectis.

Turris Babylonica. *Rumph. Ratib. Amb.* tab. 29, fig. 11.

Murex Babylonius. *Linn. Syst. Nat.* 1, 1220.

Mart. Conch. 4, tab. 143, f. 1331.

Pleurotoma Babylonica. *Lam. Syst. des Anim. sans Vertéb.* 84.

Habitat in Oceano Indico.

SPOTTED PLEUROTOMA.

Whirls carinated in their middle, on each side margined, with bands composed of black spots.

Inhabits the Indian Ocean: it is often sent in collections from Amboina, where it is said to be exceedingly common.



MUTILLA.

MUTILLA, *auctorum*.

CHARACTER GENERICUS.

Caput magnum; *antennæ* capite longiores, filiformes, frontales, articulis primo et secundo elongatis; *palpi* maxillares maxillis longiores.

Abdomen in utroque sexu ovalis, convexum, segmento secundo magno.

Thorax cubicus; *alæ* cellulis tribus submarginalibus, una marginali.

MALES alati.

FEMINÆ apteræ.

MUTILLA.

GENERIC CHARACTER.

Head large; *antennæ* longer than the head, filiform, situated in the front of the head, the first and second joints elongate; *maxillary palpi* longer than the maxillæ.

Abdomen in both sexes oval, convex, the second segment large.

Thorax cubical; *wings* with one marginal and three submarginal cells.

MALES with wings.

FEMALES apterous.

The insects of this genus have no neuters, nor do they live in societies, as some writers have asserted.

Most of the species inhabits the warmer, and some few the more temperate regions. *Mutilla Europæa* is the only one that inhabits Great Britain, in which country it is far from being a common insect.

TAB. C. MUTILLA COCCINEA.

M. coccinea ; antennis, pectore, ventre, pedibus (abdomineque *maris* basi, *foeminæ* fascia medio) atris ; alis fuscis nigricantibus.

Mutilla coccinea. *Linn. Syst. Nat.* 1, 966.

Fabr. Ent. Syst. 2, 366, 1.

Habitat in America.

SCARLET MUTILLA.

Scarlet ; antennæ, breast, belly, legs (and base of the abdomen of the male, middle of the abdomen of the female) black ; wings fuscous-blackish.

Mutilla coccinea is extremely common in some parts of America, especially in Carolina and Georgia, from whence it is frequently sent to Europe in collections.



From *Exposition Universelle* by R. P. Wilson

RECURVIROSTRA

RECURVIROSTRA, *Auctorum.*

PLUTUS, *Klein.*

CHARACTER GENERICUS.

Rostrum depresso-planum, subulatum, recurvatum, acuminatum; ~~nares~~ *nares* oblongæ.

Pedes elongati tetradactyli; digitis tribus anticis palmatis; postico, brevissimo, a terra elevato.

AVOSET.

GENERIC CHARACTER.

Beak depressed-flat, subulate, recurved, acuminate; *nostrils* oblong.

Legs elongate, with four toes; three fore-toes palmate; hinder toe very short, not touching the ground.

The avosets inhabit the sea-shore, living on worms of various kinds, which they are said to scoop from the sand with their bill, which, if it were not flexible at its extremity, would appear to be well adapted for this purpose.

SP. 1. RECURVIROSTRA AMERICANA.

TAB. CI.

R. corpore albo nigroque vario, capite, collo pectoreque
rufescentibus.

Recurvirostra Americana. *Gmel. Syst. Nat.* 1, 693.

Lath. Ind. Orn. 787.

Habitat in America Septentrionali.

Long. corp. 20 unc.

AMERICAN AVOSET.

Body varied with black and white ; head, neck, and breast,
reddish.

Inhabits Northern America.

It is about twenty inches in length. Pennant and Latham have named it the American avoset.

SP. 2. RECURVIROSTRA AVOSETTA.

R. corpore albo nigroque vario.

Recurvirostra avosetta. *Auctorum.*

Habitat in Europa.

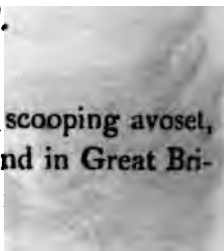
Long. corp. 18 unc.

COMMON AVOSET.

Body varied with black and white.

This species, which is named also the scooping avoset, inhabits the shores of Europe, and is found in Great Britain.

Length eighteen inches.





CROCODILUS.

CROCODILUS, *Cuvier, Dumeril, &c.*

LACERTA, *Linneé, &c.*

CHARACTER GENERICUS.

Corpus elongatum, squamis cataphractum; *squamæ* dorsi, ventris et caudæ latæ subquadratae; *cauda* compressa, supernè carinata, serrata.

Dentes serie simplici, conici; *lingua* carnosæ, lata, ori affixa.

Pedes quatuor; *antici* pentadactyli; *digitis* tribus interioribus unguiculatis; *postici* tetradactyli; *digitis* interioribus tribus unguiculatis; *ungues* omnes subcurvati, acuminati.

GENERIC DIVISIONES.

* ALLIGATORES. *Dente* infero utrinque quarto, in fossam *mandibulæ* superioris recipiendo, *plantis* semi-palmatis.

** CROCODILI. *Dente* infero utrinque quarto, per *scissuram* *maxillæ* superioris transeunte, *plantis* palmatis, *roastro* oblongo.

CROCODILE.

GENERIC CHARACTER.

Body elongate, armed with scales; *scales* of the belly, back, and tail, broad, subquadrate; *tail* compressed, above carinated; the carina serrated.

Teeth conic, disposed in a simple series; *tongue* broad and fleshy, fixed to the mouth.

Legs four; *anterior ones* with five fingers; the three inte-

rior fingers with claws; *hinder ones* with four fingers, the three interior toes with claws; *claws* slightly curved, acuminate.

DIVISIONS OF THE GENUS.

- **ALLIGATORS.** *Fourth lower tooth on each side, received into a fovea in the upper jaw; feet semi-palmate.*
- **CROCODILES.** *Fourth lower tooth on each side, passing out of the upper jaw by a fissure; feet palmate; rostrum oblong.*

The divisions of this genus into *Alligators*, *Crocodyles*, and *Gavials*, have long been used in common language, and they have been adopted and characterized by the celebrated G. Cuvier, who has written an excellent monograph on the existing species, in the tenth volume of the *Annales de Muséum*, from which I have extracted the characters given by that learned anatomist.

The *Alligators* or *Caimans*, have their head less oblong than the *crocodyles*; their teeth are unequal; the shanks of their hinder legs are never crested.

The length of the head of the *Crocodyles*, (properly so called), is double the breadth, or more. Their teeth are unequal, and their hinder shanks have externally a dentated crest.

The *Gavials* are distinguished from both divisions of this genus, by having nearly equal-sized teeth, and a very long and cylindric rostrum.





CROCODILUS • CUVIERI.

TAB. CII.

C. rostro depresso, scutis nuchæ sex; scutis duobus mediis majoribus, distantioribus, posticis minoribus approximationibus; dorso medio lineis octo scutarum; lineis duabus mediis approximationibus ab aliis remotioribus.

Habitat in Insula Dauphine in America Australi.

Mus. Britann.

CUVIERIAN ALLIGATOR.

Rostrum depressed; scales of the neck six; the two middle ones largest, and more distant from each other; hinder ones smaller, more approximate; middle of the back with eight lines of scales; the two middle lines nearer to each other, and distant from the others.

This species was killed by Major De Bathe, of the 85th Regiment, on Dauphine Island, in South America, and was by him presented to the British Museum.

It differs from Cuvier's North-American *Crocodylus lucius* (*caïman à museau de brochet*), to which it makes the nearest approach, by having six neck-scales, the two larger of which are more posterior, and not anterior, as given in his figure; likewise in the proportional distance of the lines of scales that run down the back, which are of an equal distance in Cuvier's species; whilst, in the present one, the two middle lines are at a distance from the others, and are near to each other.

These two differences have induced me to consider it distinct; and I have given it a name after that naturalist, who has been most successful in ascertaining and in characterising the species.

Length seven feet four inches.

THIA.

THIA, *Leach.*

CHARACTER GENERICUS.

Testa subcircularis posticè truncata ; *orbita* integra ; *oculi* minimi vix prominuli ; *antennæ exteriores* corpore longiores utrinque ciliatæ ; segmento tertio ex articulis elongatis cylindricis effectis ; *pedipalpi gemini externi* cauli interno biarticulato ; articulo secundo primo multò brevior, ad apicem internum truncato-subemarginato.

Pedes decem ; *par anticum* majus, æquale, didactylum ; *digitis* deflexis ; *paria* alia *tarsis* tibiis duplò brevioribus ; *unguibus* acutis, flexuosis longitudinaliter sulcatis.

Abdomen *MARIS* 5-articulatum, articulo primo transverso, arcuato, lineari ; secundo paululum longiore anticè arcuato-subproducto ; tertio valdè elongato apicem versus paululum angustiore, apice subemarginato ; quarto subquadrato, apice subemarginato ; quinto triangulari.

THIA.

GENERIC CHARACTER.

Shell subcircular, truncate behind ; *orbit* entire ; *eyes* very small, scarcely prominent ; *external antennæ* longer than the body, on each side ciliated ; third segment composed of elongate, cylindric joints ; *external double palpes* with their internal footstalk biarticulate ; the second joint much shorter than the first, its internal apex truncate-subemarginate.

Legs ten ; *anterior pair* largest, didactyle, equal in size, with its fingers deflexed ; *other legs* with their tarsi half the length of the tibiæ ; *claws* sharp, flexuose, longitudinally sulcated.

Abdomen of the MALE five-jointed, the first joint transverse, arcuate, linear; the second a little longer, anteriorly arcuate-produced; third very much elongated, towards the apex a little narrower, the point subemarginate; fourth subquadrate, the point subemarginate; fifth triangular.

THIA POLITA.

TAB. CIII.

T. testa convexa polita sparse punctata; orbita postice emarginata; lateribus utrinque obscure quadriplicatis; fronte integra arcuata.

Cancer residuus. Herbst, iii. 53, tab. 48, fig. 1.?

Thia polita. Leach, Trans. Linn. Soc. xi. 312.

Habitat —

POLISHED THIA.

Shell convex, polished, sprinkled with punctures; orbit behind emarginate; the sides obscurely four-folded; front entire, arcuated.

This animal, unless it be *cancer residuus* of Herbst, appears to be a new species.

As a genus, THIA is very interesting; it forms one of three genera forming a natural group, which probably begins that order of Podophthalmous Malacostraca, to which it belongs.



Decapoda, a. 10. 10. 10.

CLITHON.

CLITHON, *De Montfort.*

NERITA, *Linné, &c.*

URCEUS, *Klein.*

CHARACTER GENERICUS.

Testa libera, univalvis; spira regularis, depressa; umbilicus nullus; os subrotundatum; columella acuta, subdentata aut dentata; labium exterius tenue.

ANIMAL fluviatile; capite subrostrato; tentaculis duobus, oculis ad illorum basin externè.

CLITHON.

Shell free, univalve; spire regular, depressed; umbilicus none; mouth subrounded; pillar sharp, subdentate or dentate; external lip thin.

ANIMAL with its head subrostrated, with two tentacles bearing eyes at their base externally.

The genus *Clithon* differs from *Theodoxis*, (the type of which is the *Nerita fluviatilis* of Linné), in having its columella with teeth.

Some species of *Clithon* are armed with spines, others again are perfectly simple. The exact form of the tentacles of the *Clithones* has not been ascertained. It is probable, judging by analogy, that the tentacles of the spined, and of the simple species, will be found to be different.

CLITHON CORONATA.

TAB. CIV.

C. nigra; anfracto primo supernè spinis elongatis subsetaceis; epidermide obliquè in lineis elevata: columella obtusè unidentata.

Habitat —

CROWNED CLITHON.

Black; first whirl above, with elongate, subsetaceous spines; epidermis obliquely elevated into lines; pillar obtusely unidentate.

The locality of this species is not known: it is certainly distinct from the *Clithon corona* of De Montfort.



CERAMBYX.

CERAMBYX, auctorum.

CHARACTER GENERICUS.

Caput nutans; *antennæ* setaceæ, (maris præsertim) longissimæ, in oculorum sinu insertæ; *palpi* articulo ultimo obconico, compresso; *labrum* distinctum.

Thorax sæpius spinosus vel lateribus inæqualibus.

CAPRICORN.

GENERIC CHARACTER.

Head nodding; *antennæ* setaceous, (especially of the male), very long, inserted in a notch of the eyes; *palpi* with their last joint obconic, compressed; *labrum* distinct.

Thorax generally spinous, or with unequal sides.

The larvæ of *cerambyces* inhabit the trunks of trees, which they perforate, so as to cause their total destruction.

CERAMBYX VIRENS.

TAB. CV.

C. thorace rotundato transversim abducto ; lateribus unispinosis, corpore viridi, pedibus nigris ; plantis testaceis ; femoribus ventrique rufis.

Cerambyx virens. *Linn. Syst. Nat.* 2, 627.

Fabr. Syst. Eleut. 2, 267.

Var. β . Thorace elytrisq. virescentibus.

Habitat in America.

GREEN CAPRICORN.

Thorax rounded, transversely striated as if with a needle ; the sides with one spine, body green, legs black ; plantæ testaceous ; thighs and belly rufous.

This beautiful insect inhabits America, where it is a very common species. The larva is said to inhabit the trunks of *Amyris Balsamifera*.

The perfect insect is subject to great variation, being sometimes found of a fine violet, with every possible shade between it and green, which is the most common colour.



DACELO.

ALCEDO, *Latham, Gmelin.*

CHARACTER GENERICUS.

Rostrum crassum tetragono-conicum, fauce ad oculos hiante; *mandibula superior* longior, apicem versus utrinque latè emarginata; *nares* oblongæ.

Cauda mediocris; rectricibus duodecim subæqualibus, exteriore utrinque subbreuiore.

Pedes tetradactyli; digitis tribus anticis, interiore minore, exterioribus duobus basi connexis, uno postico: *unques* curvati.

GENERIC CHARACTER.

Beak thick, four-sided-conic; the mouth gaping to the eyes; *upper mandible* longest, towards its point on each side broadly notched; *nostrils* oblong.

Tail moderately long; composed of twelve nearly equal quills; the exterior quill on each side rather shorter than the rest.

Legs with four toes; three anterior, the interior smallest, the two exterior connected at their base, one posterior: *claws* curved.

The birds of this genus inhabit woods at a distance from any water. Their food is unknown.

DACELO GIGANTEA.

TAB. CVI.

D. corpore olivaceo-fusco, subtus albido, caudâ ferrugineo nigroque fasciatâ; apice albâ, mandibulâ superiore nigricante; inferiore albidâ basi nigricante.

Mas, capite subcristato: cristâ fusca, pedibus flavis; ventre nigricante fasciato.

Fœmina, vertice fusco haud cristato, pedibus fuscis.

Alcedo gigantea. *Lath. Ind. Orn.* 246.

Alcedo fusca. *Gmel. Syst. Nat.* 1, 454.

Habitat in Novâ Hollandiâ.

GIGANTIC DACELO.

Body olive-brown, beneath whitish; tail banded with black and ferruginous, the tip white; upper mandible blackish, under one whitish with a blackish base.

Male, with its head slightly crested, the crest fuscous; legs yellow; belly banded with blackish.

Female, with the crown of the head brown, without a crest; legs brown.

Inhabits New Holland, where it is a very common bird. It is known by the appellation of *Gigantic*, or *Great brown Kingfisher*.



TOMIGERES.

TOMIGERES, *De Montfort.*

HELIX, *Linn. &c.*

CHARACTER GENERICUS.

Testa univalvis, libera ; *spira* regularis, depressa ; *umbilicus* nullus ; *os* integrum, rotundatum, dentatum, dorsale ; *labium* incrassatum, subperfectum.

ANIMAL ———

TOMIGER.

GENERIC CHARACTER.

Shell univalve, free ; *spire* regular, depressed ; *umbilicus* none ; *mouth* entire, rounded, toothed, dorsal ; *lip* thickened, nearly perfect.

ANIMAL unknown.

The singular position of the mouth, will distinguish this genus from all others that are yet discovered.

The tomigers inhabit the land, but the animal has not yet been described by authors.

TOMIGERES RINGENS.

TAB. CVII.

T. testâ albidâ ferrugineo-maculatâ maculis elongatis sæpè
confluentibus, ore multidentato : dentibus inæqualibus.

Helix ringens. *Linneé, &c.*

Tomigeres ringens. *De Mont. Conchyl. Syst. 2, 359.*

GRINNING TOMIGER.

Shell whitish, spotted with ferruginous, the spots often running together ; mouth multidentate, the teeth unequal.

The mouth varies extremely in the number and proportion of the teeth ; the internal lip has generally two teeth, rarely three ; the exterior lip has from three to five teeth, which are always of very unequal sizes.



Truncatella (Cingula) pubescens (L.) (P. 1846) (P. 1846) (P. 1846)

1

LIBINIA.

CHARACTER GENERICUS.

Testa subcircularis spinosa densè villosa, anticè gradatim in rostrum integrum producta; *oculi* pedunculo vix subcrassiores; *orbita* fissurà nullà distinctâ.

Antennæ rostri longitudine, articulo primo secundo longiore; articulo tertio tenuissimo.

Pedipalpi gemini externi cauli interno, articulo secundo ad apicem internum abruptè et profundè emarginato, latereque interno ad basin emarginato pro articuli primi processûs apicalis insertione.

Pedes 10; par anticum didactylum reliquis haud multo crassius: paria alia mediocria haud longissima.

LIBINIA.

GENERIC CHARACTER.

Shell subcircular, spiny, thickly set with down, anteriorly gradually produced into an entire rostrum; *eyes* scarcely thicker than their peduncles; *orbit* with no distinct fissure.

Antennæ as long as the rostrum, the first joint longer than the second; the third very slender.

External double palpes with the second joint of their internal footstalk abruptly and deeply notched, and with its interior side towards the base notched, to receive the second joint.

Legs ten; anterior pair didactyle, not much thicker than the others, which are moderate in size, and not very long.

LIBINIA EMARGINATA.**TAB. CVIII.**

L. rostro apice emarginato, testâ lateribus utrinque sex-spinosis.

Habitat ———

Mus. Brit.

NOTCHED LIBINIA.

Beak with its apex notched, shell on each side with six spines.

The locality of this species, which is the only one of the genus that has yet been observed, is unknown.

There is a very fine specimen preserved in the British Museum.



EPEIRA.

EPEIRA, Walckenaër, Latreille, Leach.

ARANEÆ, auctorum.

CHARACTER GENERICUS.

Thorax inversè elongato-subcordatus, anticè late truncatus: *oculi* octo; quatuor mediis in tuberculum abruptum impositis quadratum efformantibus; duobus anticis majoribus, remotioribus; lateralibus duobus utrinque subgeminatis in tuberculum obliquè impositis: *pedes* mediocres, hispidi, femoribus subrobustis; primi, secundi deinde, quarti postea longiores; tertii breviores: *ungues* exserti.

Abdomen subglobosum, magnum, thorace multo latius.

Maxillæ subcirculares, internè membranaceæ.

Labium semicirculare, breve, apice membranaceum.

EPEIRA.

GENERIC CHARACTER.

Thorax inversely elongate-subcordate, anteriorly broadly truncate: *eyes* eight; the four middle ones placed on an abrupt tubercle, and arranged in the form of a quadrangle; the two anterior eyes of this group largest, and more distant; the two lateral eyes subgeminated, set obliquely on a tubercle: *legs* moderate, hairy, the thighs rather thick; the first pair, then the second longest; the third pair shortest: *claws* exserted.

Abdomen subglobose, large, much broader than the thorax.

Maxilla subcircular, internally membranaceous.

Lip semicircular, short, the apex membranaceous.

The genus *Epëira* of Latreille I have divided into several good genera ; the species of that genus, which retains the name, are very numerous : one of the most common of the British ones is *Epëira diadema* (*aranea diadema*, Linn.), the *Diadem* or *Sceptre Spider*.

EPEIRA GIGAS.

TAB. CIX.

E. thorace nigro disco margineque ferrugineis, palpis pedibusque rufescentibus nigro annulatis, abdomine albido : medio lineis duabus angulatis postice convergentibus brunneis.

Habitat ———

Mus. Britan. Macleay.

GIGANTIC EPEIRA.

Thorax black, with the margin and centre ferruginous ; palpi and legs reddish, annulated with black ; abdomen whitish, the middle with two brown angulated lines converging behind.

I suspect this gigantic epëira to be a native of North America.

There are fine specimens in the British Museum, and in the collection of Macleay.



Aranea (Theridion) bimaculata (Walckenaer)

NEPHILA.

ARANEA, Fabricii.

CHARACTER GENERICUS.

Thorax elongato-quadratus, anticè abruptè angustior, postice emarginatus: *oculi* octo; quatuor mediis in elevationem sensim efformatam impositis; duobus anticis submajoribus; lateralibus duobus utrinque subgeminatis, in tuberculum subobliquè impositis: *pedes* elongati, graciles, subpilosuli; primi, secundi deinde, quarti postea longiores; tertii multo breviores; ungues exserti.

Abdomen valde elongatum, thorace haud aut vix latius.

Maxillæ elongatæ, basi angustatæ, apice truncatæ.

Labium elongatum basi subangustius, apice abruptè subacuminatum.

NEPHILA.

Thorax elongate-quadrate, anteriorly abruptly narrower, behind notched: *eyes* eight; the four middle ones placed on a gradually-formed elevation; the two anterior ones rather largest; lateral eyes on each side two, subgeminated, placed rather obliquely on a tubercle: *legs* elongate, slender, rather hairy; the first, then the second pair longest; the third pair by much the shortest: *claws* exserted.

Abdomen very elongate, scarcely thicker than the thorax.

Maxillæ elongate, narrower at their base, their apex truncate.

Lip elongate, its base rather narrower, the apex abruptly subacuminate.

NEPHILA MACULATA.

TAB. CX.

N. nigricans, thorace fusco-ferrugineo, coxis palpisque basi croceo-luteis, abdomine luteo ventre lateribusque infuscatis : hinc lineis illis maculis albis.

Aranea Maculata. *Fabr. Ent. Syst.* 2. 425.

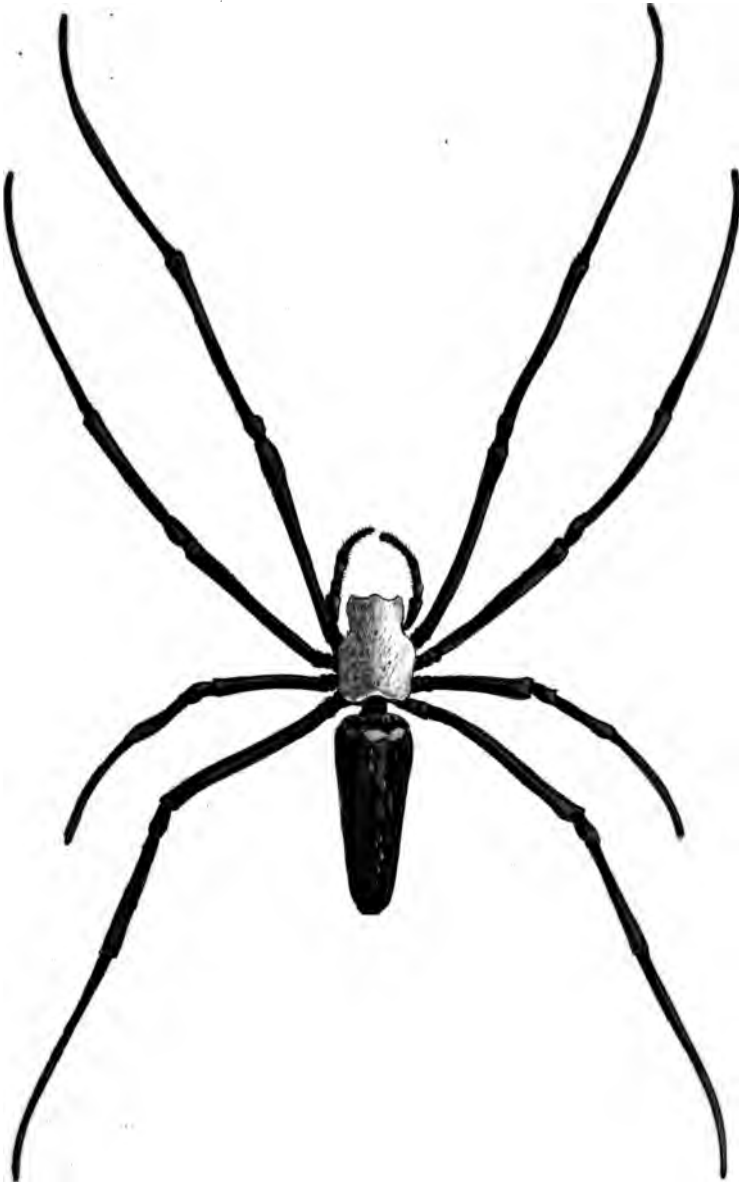
Donov. Insect. of China.

Habitat in Sina.

SPOTTED NEPHILA.

Blackish; thorax fuscous-ferruginous; coxæ and base of the palpi croceous-luteous; abdomen luteous; the belly and sides brown, the latter with lines, the former with spots of a white colour.

This beautiful Nephila is a native of China, from whence it is often sent in a broken state.



Drawn Engraved & Published by R. P. Weston, Taverham, N. London.

ORNITHORYNCHUS.

ORNITHORYNCHUS, *auctorum.*

PLATYPUS, *Shaw.*

CHARACTER GENERICUS.

Corpus pilis obtectum, anticè rostro anatino, lato, depresso terminatum : *pedes* quatuor, pentadactyli, palmati ; *antici* membranâ palmatâ digitis longiore, unguibus rectis ; *postici* unguibus acutis, curvatis, membranam palmatam ultra productis.

Os molaribus simplicibus instructum.

Obs. *Mammæ* nullæ ; *labia* carnosâ nulla ; *palatum* corneum ; *meatus auditorius externus* nullus ; *pedes postici* **MARIS** calce valido instructi.

ORNITHORYNCHUS.

GENERIC CHARACTER.

Body covered with hairs, anteriorly terminated by a broad, depressed, duck-like beak : *legs* four, pentadactyle, palmated ; *anterior legs* with the palmated membrane projecting beyond the claws, which are straight ; *hinder legs* with acute, curved claws, produced beyond the palmate membrane.

Mouth with simple grinding teeth.

Obs. *Mammæ* none ; *fleshy lips* none ; *palate* horny ; *external ear-passage* none ; *hinder legs* of the **MALE** with a strong spur.

The hair is compressed, and clavate at its extremity.

SP. 1. ORNITHORYNCHUS FUSCUS.**TAB. CXI.**

O. rostro pedibusque nigris, unguibus anticis linearibus obtusis, corpore fusco.

Ornithorynchus fuscus. *Peron Voyage aux Terr. Aust.*
pl xxxiv. fig. 1.

Habitat in Australasia.

BROWN ORNITHORYNCHUS.

Beak and legs black, anterior claws linear obtuse, body brown.

Inhabits New Holland.

SP. 2. ORNITHORYNCHUS RUFUS.

O. pallidè rufus : unguibus anticis acuminatis acutis.

Habitat in Australasia.

REDDISH ORNITHORYNCHUS.

Pale reddish : anterior claws acuminate, acute.

Inhabits New Holland.

This species differs from *O. rufus* not only in colour, but in having the beak narrower, the nostrils more terminal, the anterior claws acuminate, and in the form of the hair of the anterior part of the body, which has a much longer club at its extremity.



Platypus (Ornithorhynchus anatinus)

1

CANCROMA.

CANCROMA, *Linneé, Gmel., Lath., &c.*

COCHLEARIIUS, *Brisson.*

GALLINULA, *Ray.*

CHARACTER GENERICUS.

Rostrum gibbosum, latissimum : *mandibula superior* resupinatè cymbæformis ; supra carinata ; carinâ utrinque canaliculata, canali narifero, apice adunca : *mandibula inferior* plana ; apice abrupte acuminata.

Pedes elongati, tetradactyli ; digitis tribus anticis basi palmatis ; uno postico.

BOATBILL.

GENERIC CHARACTER.

Beak gibbous, very broad : *upper mandible* boat-shaped ; above keeled ; the keel on each side channelled, the channels bearing the nostrils : *under mandible* flat ; the apex abruptly acuminated.

Legs with four toes ; three toes before with their bases webbed ; one behind.

There are several species of this genus, or several varieties of one species, all of which inhabit South America.

CANCROMA VULGARIS.**TAB. CXII.**

C. cinerascens, cristâ verticeque pernigris, dorso ventreque subferrugineis, gulâ pectoreque sordidè albidis, pedibus mandibulâque superiore nigris ; inferiore testaceâ.

Cochlearius. *Brisson* 5, 506, 1.

Cancroma cochlearia. *Linn. Syst. Nat.* 1, 233.

Lath. Ind. Ora. 671.

Habitat in America Australi.

COMMON BOATBILL.

Ash-coloured, crest and crown very black, back and belly subferruginous, throat and breast dirty white, legs and upper mandible black, under mandible testaceous.

Inhabits Southern America ; feeds on fishes, vermes, and crustacea, in quest of which it is continually traversing the borders of the sea.



Great Frigatebird as published by R. W. Gordon, Turin, 1811, London

PHAETON.

PHAETON, *auctorum*.

LEPTURUS, *Brisson*.

PLANCUS, *Klein*.

CHARACTER GENERICUS.

Rostrum cultratum, compressum, acuminatum ; fauce pone
rostrum hiant : *nares* oblongæ.

Cauda cuneiformis ; *rectricibus* duabus intermediis longis-
simis.

Pedes tetradactyli, palmati ; *digitis* omnibus connexis.

TROPIC-BIRD.

Beak knife-shaped, compressed, acuminate ; the mouth
gaping behind the beak : *nostrils* oblong.

Tail wedge-shaped ; the two intermediate quills very long.

Legs with four toes, palmated ; all the toes connected.

The tropic-birds inhabit the ocean about the tropics,
living on fishes. They never approach the shore excepting
in the breeding season, or when compelled to do so by
long and continued storms.

PHAETON ÆTHEREUS.

TAB. CXIII.

P. albus ; dorso, uropygio tectricibusque alarum minoribus nigro-striatis, rectricum scapis basi fasciaque supra-oculari nigris, rostro rufescente.

Phaeton æthereus, *auctorum*.

Habitat in Pelago inter Tropicos.

ETHEREAL TROPIC-BIRD.

White ; back, and lesser wing-coverts striated with black, base of the quills of the tail, and a mark above the eye black ; beak reddish.

This Phaeton is the species so often mentioned by voyagers, under the general name of tropic-bird. It is rarely seen in collections of birds.



PERNA.

PERNA, *Lamarck, &c.*

OSTREA, *Linné.*

CHARACTER GENERICUS.

Testa bivalvis, compressa ; *cardo* transversim aut obliquè sulcatus ; *sulcis* linearibus, parallelis ; *ligamentum* elasticum.

ANIMAL byssoferum.

PERNA.

GENERIC CHARACTER.

Shell bivalve, compressed ; *hinge* transversely or obliquely sulcated ; *grooves* linear, parallel ; *ligament* elastic.

ANIMAL furnished with a beard.

The PERNÆ inhabit the sea ; they adhere to different bodies by their beard : of their natural history nothing is known. They are sometimes named *grate-shells*, and some species occur in a fossil state.

PERNA TRANQUEBARENSIS.**TAB. CXIV.**

P. testa elongata, atro-purpurascente, uni-alata ; apice marginique internè nigricantibus.

Habitat in mari apud Tranquebar.

TRANQUEBAR PERNA.

Shell elongate, black purplish, with one wing ; apex and margin internally blackish.

This species inhabits the sea about Tranquebar. It is certainly distinct from any of the described species.



1

CICINDELA.

CICINDELA, *auctorum*.

CHARACTER GENERICUS.

Palpi sex; *maxillares* quatuor; *interiores* biarticulati; *exteriores* labialibus longiores; *labiales* duo, articulis duobus basilaribus brevissimis; *maxillæ* ungula terminatæ; *mandibulæ* valdè dentatæ; *antennæ* filiformes.

Thorax brevis, cylindricus; *abdomen* elongato-quadratum posticè rotundatum; *elytra* plana; *alæ* perfectæ, elongatæ.

Pedes cursorii; *tarsi* 5-articulati.

CICINDELA.

GENERIC CHARACTER.

Palpi six; *maxillary* four; *interior* biarticulate; *exterior* longer than the labial; *labial*, their two first joints very short; *maxilla* terminated by a little hook; *mandibles* very much toothed; *antennæ* filiform.

Thorax short, cylindric; *abdomen* elongate-quadrate, rounded behind; *elytra* flat; *wings* perfect, elongate.

Legs formed for running; *tarsi* five-jointed.

The *Cicindela*, commonly named *sparklers*, are found in the cold as well as the warmer regions of the world; they inhabit dry sandy places, living on other insects. They run with great quickness, and fly with ease and rapidity.

Four species inhabit Great Britain—1. *C. Sylvatica*, 2. *Hybrida*, 3. *Campestris*, (which is the most common), and 4. *Germanica*.

CICINDELA QUADRILINEATA.

TAB. CXV.

C. viridi-ænea, elytris obscuris: margine lineaque media albis.

Cicindela quadrilineata. *Fabr. Ent. Syst.* 1, 175.

— *Syst. Eleut.* 1, 239.

Oliv. Insect. 23, tab. 1, fig. 4.

Habitat in India.

FOUR-LINED CICINDELA.

Green-bronze, elytra obscure; margins and a middle line white.

Inhabits India.

In the annexed plate *Cicindela quadrilineata* is represented of the natural size, as well as magnified.



Drawn by J. G. F. and Published by R. P. Voss, Toronto, St. Lawrence.



Engraved by Robert H. Smith for the Rev. J. G. Thompson, 1871.

POGONIUS STEPHENSII.**TAB. CXVI.**

P. niger; macula superciliari, dorso maculis, rectricibus remigibusque internis margine flavis, collo utrinque ventreque albidis, vertice coccineo, pedibus brunneis.

Barbu du Cap de Bonne Esperance. *Pl. Eul.* 688, fig. 1.

Bucco niger β . *Lath. Ind. Orn.* i. 204, 8.

Bucco rufifrons. *Stephen's Gen. Zool.* ix. 31.

Mus. Hist. Nat. Gal. et Dom. Dufresne.

Habitat ad Promontorium Bonæ Spei.

STEPHENS'S POGONIUS.

Black; streak over each eye, spots on the back, margins of the tail, and wing-quills yellow; neck on each side, and belly on each side whitish; crown scarlet; legs brown.

Inhabits the Cape of Good Hope.

This Pogonius I have named after my friend J. F. Stephens, Esq. from whom naturalists may expect the continuation of the ornithological part of the General Zoology, one volume of which will shortly appear under his direction.

POGONIUS LEVAILLANTII.

TAB. CXVII.

**P. niger ; collo rostroque brunneis, vertice coccineo, gula
jugulo pectore anoque albidis, ventre fulvescente.
Habitat in Africa.**

LEVAILLANT'S POGONIUS.

**Black ; neck and beak brown ; crown scarlet ; throat,
breast, under part of the neck, and vent whitish.**

**The figure of this species is copied from a drawing made
by Le Vaillant. It inhabits Africa, and is very rare.**



Engraved & published by R. P. Norton, Junr. 81. London.

PODOPHTHALMUS.

PODOPHTHALMUS, *Lamarck, Latreille, Leach.*

PORTUNUS, *Fabricii.*

CHARACTER GENERICUS.

Testa transversissima, lateribus utrinque spina longissima terminatis.

Oculi magni, oblongi, ovati pedunculo crassiores : *pedunculus* ad *testæ* latera antica attingens ; articulus primus longissimus secundo tenuior.

Antennæ exteriores sub oculos insertæ,

Pedipalpi externi cauli interno articulo secundo ad apicem internum valdè truncato, palpigero : *palpi* caulis longitudine ; articulis longitudine subæqualibus.

Pedes 10 : ordine 1, 3, 2, 4, 5 ; 2 et 4 subæqualibus : par anticum æquale, didactylum ; brachiis anticè spinosis : par quintum tibiis, tarsis unguibusque compressis, natatoriis.

Abdomen MARIS 5-articulatum ; FEMINÆ 7-articulatum :

PODOPHTHALMUS.

GENERIC CHARACTER.

Shell very broad, the sides on each side terminated by a long spine.

Eyes large, oblong, ovate, thicker than their peduncles : *peduncle* reaching to the anterior angles of the shell ; the first joint very long, more slender than the second.

Exterior antennæ inserted under the eyes.

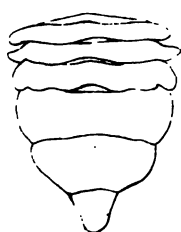
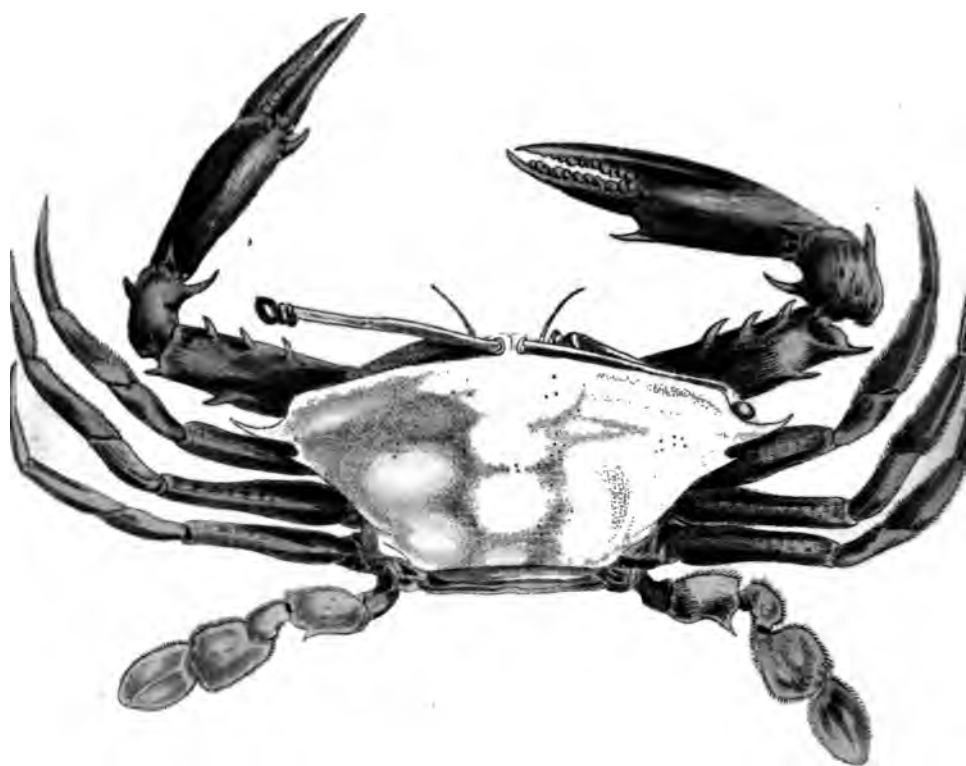
External pedipalpes with the second joint of their interior footstalk very much truncated at their internal point, on which the palpes are inserted: *palpes* as long as their footstalk; the joints of nearly equal length.

Legs ten: in order 1, 3, 2, 4, 5; 2 and 4 subequal; anterior pair equal, didactyle; arms anteriorly spinous; hinder pair with compressed tibiae, tarsi, and claws.

Abdomen of the MALE 5; of the FEMALE 7-jointed.

In the **PORTUNI**, **PORTUMNI**, and **LUPÆ** (genera, which with *Podophthalmus*, form a natural group); the first joint of the peduncle of the eyes is extremely short: by this character alone, therefore, they may easily be distinguished from the above genus, with which, in many other characters, they agree.





PODOPHTHALMUS VIGIL.

TAB. CXVIII.

P. testa spinâ laterali autrorsum spectante acutissimâ, basi posticè unispinosâ; acutissimâ autrorsum spectante, brachiis antice trispinosis, posticè corpisque bispinosis, manibus apice basique unispinosis.

Portunus Vigil. *Fabr. Suppl. Ent. Syst.*

Podophthalmus spinosus. *Lam. Syst. des Anim. sans Vert.*

Lat. Gen. des Crust. et des Insect. i.

Leach, Edinb. Encycl. vii.

Habitat in Indiæ occidentalis mari.

COMMON PODOPHTHALMUS.

Shell with the lateral spines very sharp, turning forward, the base behind with one very acute spine, turning forward; arms before, with three spines, behind with two spines; wrists with two spines; hands with one spine at their base, and another at their apex.

The female specimen figured on the adjoining plate, was brought by Mr. Mathieu from the Isle of France, where it is not an uncommon species. The arms of the male are longer.

In the extensive museum of organic remains collected by M. DeFrance, there is a fossil species of this genus, which is a male; it differs from *P. vigil*, in having the shell more distinctly notched behind, the abdomen narrower, and the lateral spine of the shell behind the orbit short and round.

instead of acute. In other respects they agree, as far at least as can be determined from the examination of a mutilated specimen. Its locality is unknown. I have named it *P. Defrancii*.

IBACUS.

CHARACTER GENERICUS.

Testa latior quam longa, subdepressa, utrinque profundissimè incisa: *oculi* in margine anteriore inserti: *pedunculus* crassus, recurvus, apicem versus acuminatus.

Pedipalpi externi articulis duobus primis externè cristatis: articulo secundo internè multò-fisso: *flagrum* tripartitum; segmento ultimo multi-articulato.

Pedes decem, breves: paria duo antica aliis abruptè crassiora: par quintum didactylum; pollice abbreviato.

Cauda pentaphylla; lamellis membranaceis, basi crustaceis.

Antennæ interiores 3-articulatæ, setis duabus articulatis terminatæ.

—— *exteriores* squamiformes, 4-articulatæ.

IBACUS.

GENERIC CHARACTER.

Shell broader than long, subdepressed, on each side very deeply fissured; *eyes* inserted at the anterior margin; *peduncle* thick, recurved, acuminate towards its extremity.

External pedipalpes with the two first joints externally crested; second joint internally, with many fissures: *flagrum* tripartite; the last segment many-jointed.

Legs ten, short; two anterior pair abruptly thicker than the others; fifth pair didactyle; thumb short.

Tail with five membranaceous lamellæ, which are crustaceous at their base.

Interior antennæ three-jointed, terminated by two many-jointed setæ: *external antennæ* squamiform, four-jointed.

IBACUS is one of four distinct genera that have been confounded under the general appellation SCYLLARUS.

The order of the thighs, according to their length, is 2, 3, 4, 1, and 5.

IBACUS PERONII.

TAB. CXIX.

I. testa utrinque pone fissuram 5-dentata, pedipalpis externis articulo secundo crista dentata.

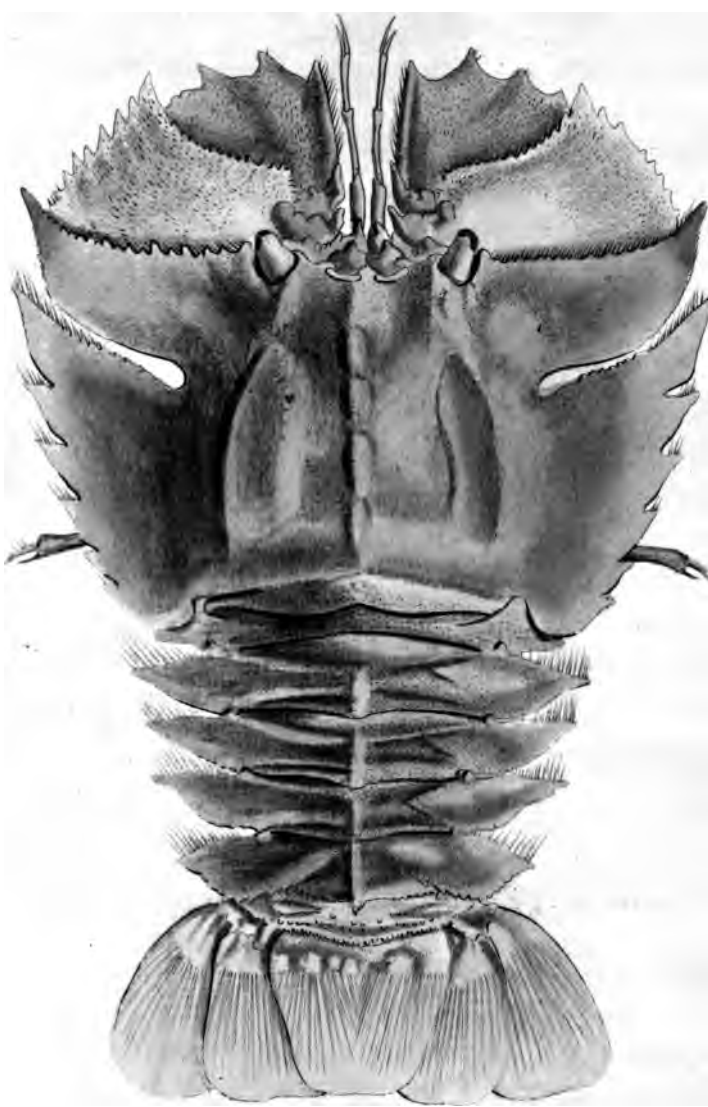
Scyllarus incisus. Peron, *Mus. Hist. Nat. Galic.*

Habitat in Australasie mari.

PERON'S IBACUS.

Shell on each side behind the fissure with five teeth; exterior pedipalpes with their crest dentated.

The only specimen of this species that I have seen, is preserved in the collection of the Jardin des Plantes, where it was deposited by Peron, who brought it from New Holland.



Trilobites from the Devonian of New York

BULIMUS.

CHARACTER GENERICUS,

Tom I. page 67.

BULIMUS.

GENERIC CHARACTER,

Vol. I. page 67.

BULIMUS DUFRESNII.

TAB. CXX.

**B. subviolascente-castaneus ; anfractu basilari fasciâ e lineis
duabus albis lineâque castaneâ confectâ.**

Habitat in Australasia.

Mus. Dom. Dufresne.

DUFRESNE'S BULIMUS.

Shell chesnut, slightly inclining to violet ; the basal whirl
with a band composed of one chesnut and two white
lines.

This new species I have named after M. Dufresne, in
whose collection (which is ever open for the use of natu-
ralists) it occurs.

Inhabits New Holland.



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